

JANUARY • 1959

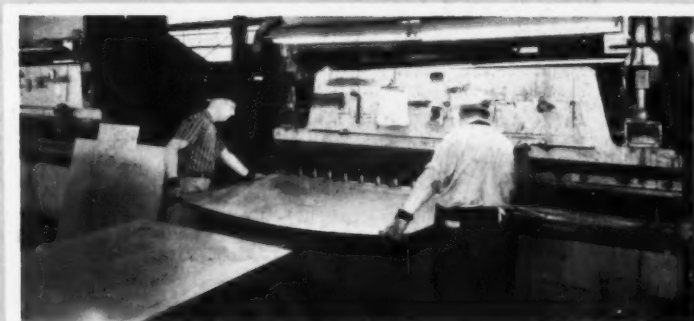
Metal Products Manufacturing

*Serving the
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Fabricated Metal Products
Industry*

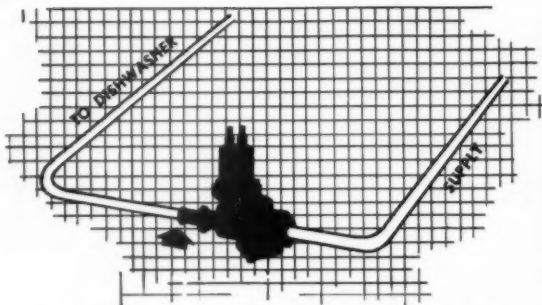
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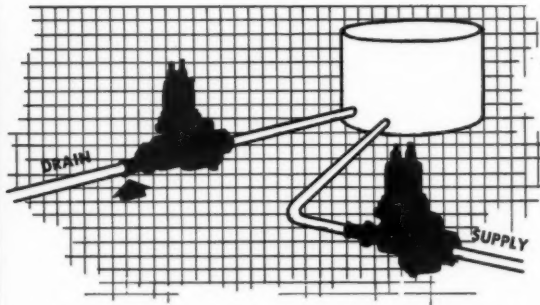
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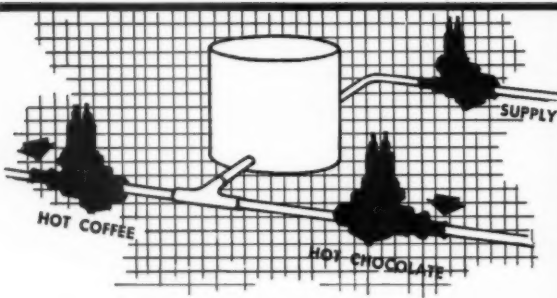
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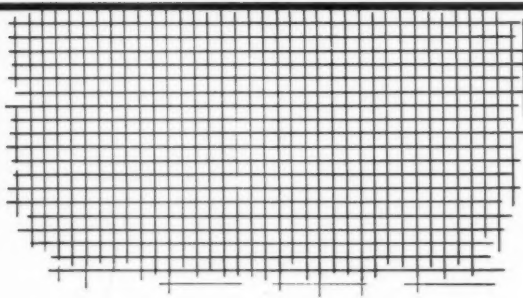
Hot water enters a dishwasher several times during its wash-rinse cycle. The control? Detroit Controls' S-25 Solenoid valve.



An automatic water softener recharges itself. The S-25 valve and a timer simplifies the regeneration process.



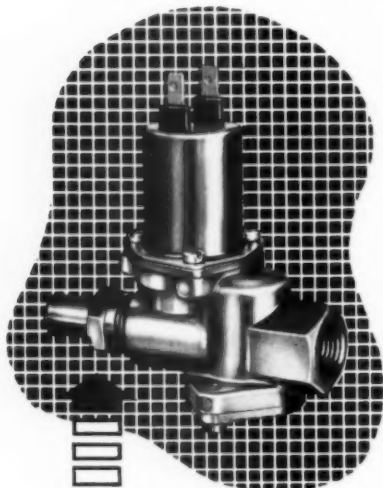
Put a dime in a vending machine. You get your choice of hot coffee or hot chocolate. There's an S-25 controlling the hot water to each—still another controlling the master supply entering the machine.



IT'S YOUR TURN! Doodle your own piping arrangement here. It's dollars to doughnuts that if you have a varying water flow control problem, the S-25 will help you do a better job.

NEW DETROIT SOLENOID GIVES CONSTANT WATER FLOW

from 1/4 to 6 gpm—2-1/2 to 200 psi—up to 180°F
(Up to 200° For Special Applications)



FLOW CONTROL DEVICE
IS LOCATED HERE.

Here's a new valve that will positively open — positively close — time after time after time. Detroit has designed it with flexibility in mind. For example, the flow control device in the outlet connection assures accurate delivery of water quantity regardless of varying supply pressures. It also is available with any of three different connections: pipe, tubing or hose. The S-25's unique construction permits accurate volume control when mounted in any position. There is a wide variety of brackets available. It has a large, integral, easy-to-get-at, easy-to-clean strainer and features waterproof, interchangeable coils for all standard AC voltages. Available with top or side spade terminals or pigtailed. It's listed by the Underwriters' Laboratories.

* * *

We know of the three applications above and we'd like to know about yours. Sketch where this valve could fit into your system. Mail it to us and we'll shoot a quote right back to you. Or if you wish, we'll send a Detroit representative out right away. Just write to Detroit Controls Division of American-Standard, 5900 Trumbull Ave., Detroit 8, Michigan.

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DETROIT CONTROLS DIVISION

from shop to showroom

How Armco Enameling Iron Helps Boost Profits



Fewer Costly Rejects

Perfect fit and flawless finish are easy to achieve when porcelain enamel products and parts are made from Armco Enameling Iron.

Critical dimensions stay accurate because Armco Enameling Iron stubbornly holds its shape at *all* porcelain enamel firing temperatures. Finish defects stay low, too, since commercially-pure Armco Enameling Iron contains a minimum of gas-forming impurities.

More Sales Appeal

On the sales floor, competing products often stand side-by-side. Inspection is critical. It's here that defect-free finish and accurate fit of parts are important to complete the sale.

For savings in the shop *and* sales in the showroom, specify top-quality Armco Enameling Iron. It's made *only* for porcelain enameling. Just send the coupon for complete information.

ARMCO STEEL CORPORATION, 7138 Curtis St., Middletown, Ohio

Please send me a copy of the catalog, "Armco Enameling Iron."

New
steels are
born at
Armco

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TITLE

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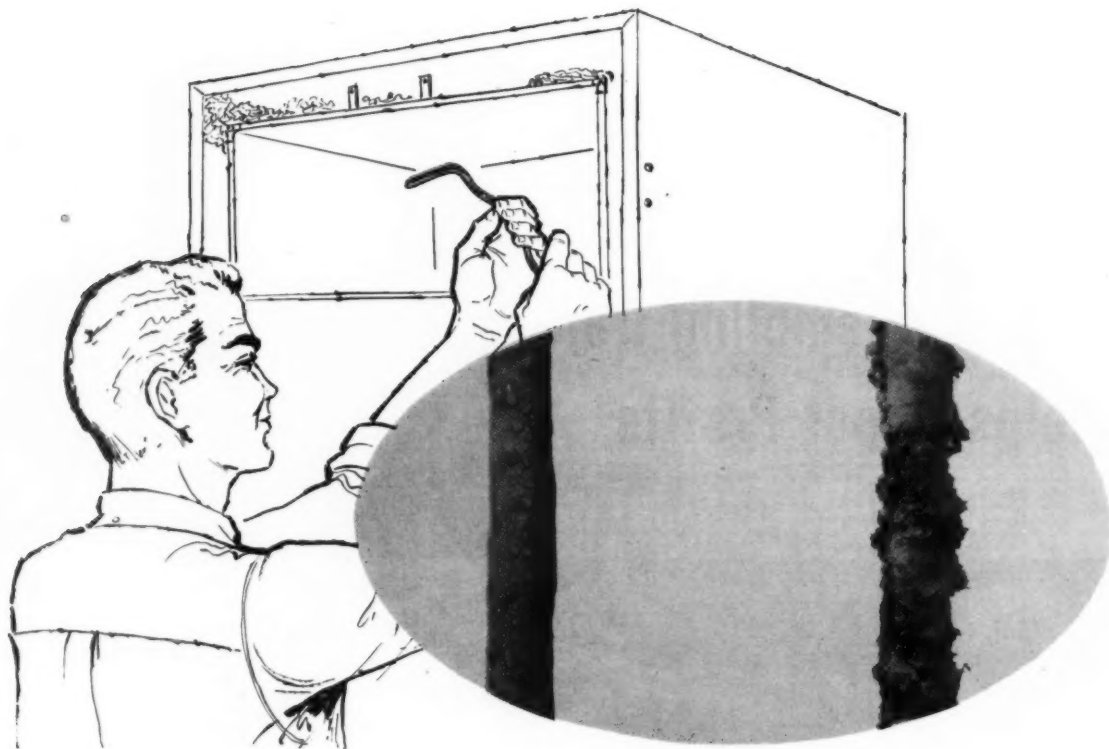
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STATE

ARMCO STEEL



Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation • Southwest Steel Products



**New *Wat-R-Bar*[®] outlasts conventional sealers 200 to 1
... 50,000 freeze-thaw cycles and *still* going strong**

Here is a new standard for freeze-thaw resistance. The inset above tells the *Wat-R-Bar* story: after being subjected to 50,000 freeze-thaw cycles it is still in perfect condition, while a competitive sealer has long since broken down after just 250 cycles.

Wat-R-Bar is odorless, non-contaminating, non-toxic; permanently plastic, non-drying with excellent adhesion and cohesion on all types of clean surfaces. It will not become brittle at -40°F , or shrink with age; will not affect rubber, plastics or lacquer surfaces. Comes in attractive ice-blue or white, available in bulk, extruded beads or tapes for easy application.

If you have an installation that requires effective, lasting resistance to high humidity between similar or dissimilar materials—*Wat-R-Bar* is the answer.

FREE SAMPLE is yours on request. Put it to the toughest test in your plant. Write Dept. R-3



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(including finish)

MONTHLY TRADE PUBLICATION

Established January 1944

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JANUARY • 1959

VOL. 16 • NO. 1

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METAL PRODUCTS MANUFACTURING

FROM RAW METAL TO FINISHED PRODUCT

A trade publication devoted to the interests of the metal products manufacturing industry with special editorial attention to home appliances. The editorial scope covers design, engineering, market and statistical information and technical and practical information on plant facilities and all phases of manufacturing "from raw metal to finished product." Free controlled circulation to top management, purchasing, engineering and key plant management and supervision in metal product manufacturing plants. To others, subscription price is \$8.00 per year, domestic. To all other countries \$10.00 per year (U.S. funds). Single copies, \$1.00.

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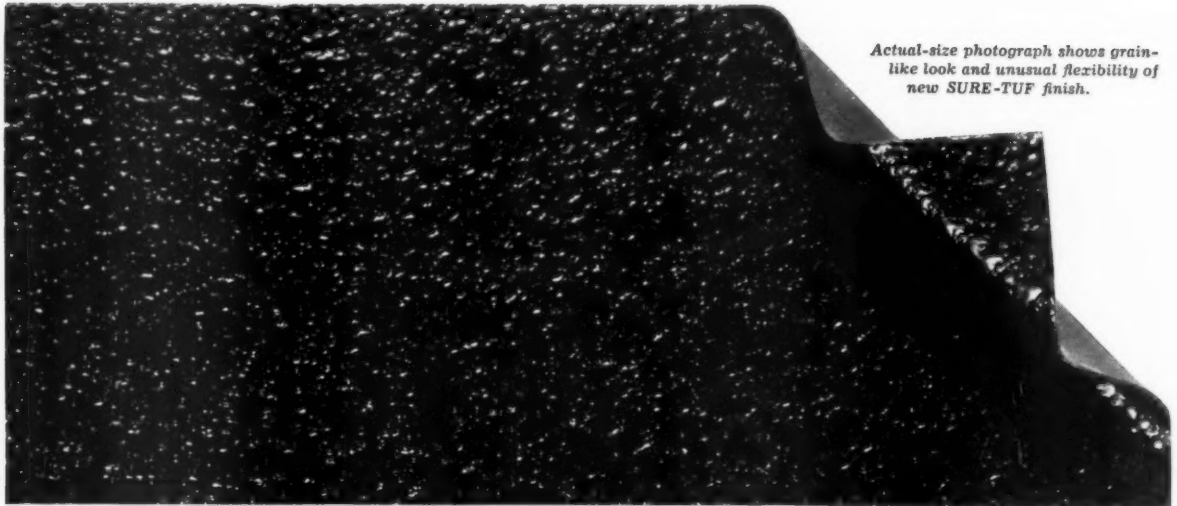
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DANA CHASE PUBLICATIONS

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Accepted under the act of June 5, 1934
at Aurora, Illinois
authorized January 7, 1948.

Looks like leather! Wears like iron!



Actual-size photograph shows grain-like look and unusual flexibility of new SURE-TUF finish.

Amazing New LOWE BROTHERS SURE-TUF™ finish

...bakes on, dries tough, won't crack, gives metal products a "new look" that builds sales

The close-up photograph here only gives you a hint of how new Lowe Brothers SURE-TUF really looks. You need actual samples of black and colors to judge the rich appearance, the "leather-grain" depth, the unusual durability and bendability of

this easy-to-work baked-on enamel finish. Write today. Tell us to rush samples with information—or to send a Lowe Brothers finishing engineer to visit you for a first-hand discussion of how SURE-TUF can improve your metal products.

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MPM-1

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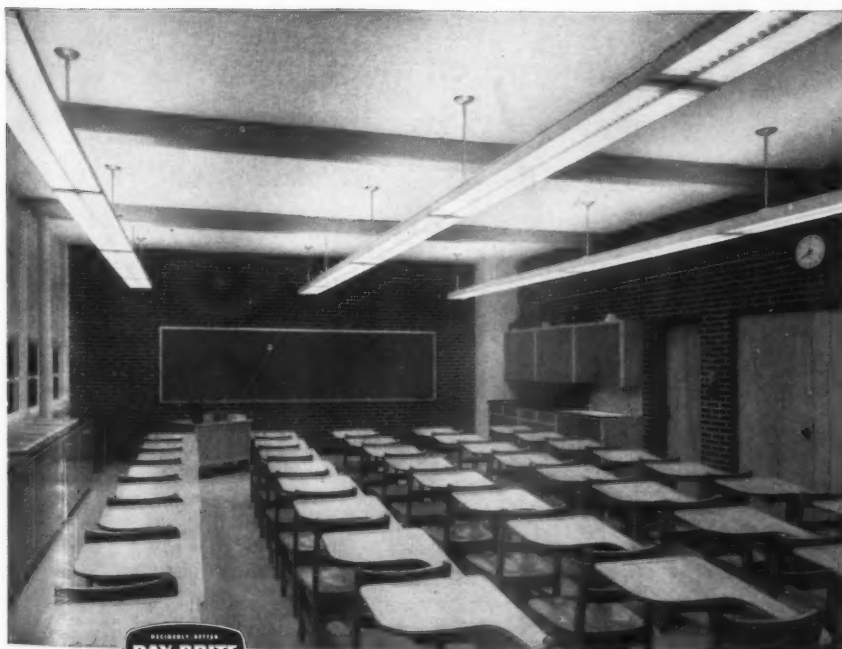
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Operator at Day-Brite plant is lathe-cutting fixture stems fabricated from Youngstown Cold-Rolled Sheets.



Accent on excellence

Youngstown hot and cold-rolled sheets



Students attending the new, modern Concord City School at Concord, North Carolina, will benefit by the latest developments in Day-Brite higher-intensity school lighting. All areas of the classroom will afford the greatest possible visual comfort—without any annoying reflected glare.

These beautiful, scientifically-designed fixtures, manufactured by Day-Brite Lighting, Inc., of St. Louis, Missouri, are fabricated from Youngstown Hot and Cold-Rolled Steel Sheets. Close quality-control by Youngstown guarantees Day-Brite a sheet of unwavering uniformity that makes possible long, trouble-free production runs—boosts profits, cuts over-all costs.

Wherever steel becomes a part of things you make, the high standards of Youngstown *quality*, the personal touch in Youngstown *service* will help you create products with an "accent on excellence".



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SHEET AND TUBE COMPANY

*Manufacturers of Carbon, Alloy and Tool Steel
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FIRST!**

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metal cleaning!**

- ▶ An easy handling liquid.
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- ▶ Simple positive control.

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means first
with the best!**



Alkalume LC-1 is a specially developed immersion-type cleaner for removal of buffing compounds and soil from all metals, prior to plating or anodizing.

It is non-solvent, non-alkaline and not an emulsion. It has the desirable penetrating properties of both alkali and solvent yet affords complete protection for the surface finish.

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Yes, Specification Plate on APOLLO ChromSteel makes possible luxurious, heavy chromed finishes of unvarying quality—at the same production economies and conveniences as when working with ordinary sheet metal!

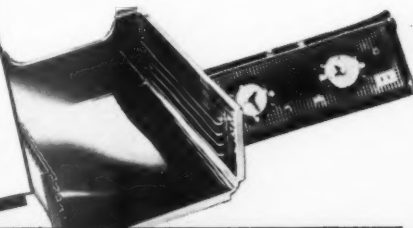
These are some of the advantages of Specification Plate on APOLLO ChromSteel:

- Can be stretched without danger of drawing out the characteristic APOLLO satin finish. Even on highly polished surfaces, deeper draws than those possible with commercial coatings can often be provided.
- Deep stretching of satin finishes can be accomplished without disrupting the grain structure or lessening resistance to corrosion.
- Cut edges are effectively armored against deterioration.
- Surface is extremely durable, resists wear and permits frequent cleaning for the life of the product or part.
- Results in a better looking product. Provides uniformity of finish that cannot be matched by any piece plating methods.
- Saves production dollars. Eliminates costly piece plating even when parts require deep draws or severe bends.

Kitchen Built-ins—doors, cook tops, control panels, burner bowls, wrapper sides and tops, kick plates, vents, hoods, rotisserie and oven linings.

Automotive—interior trim, press formed moldings, ash trays, escutcheons, rear vision mirror backs, other accessories.

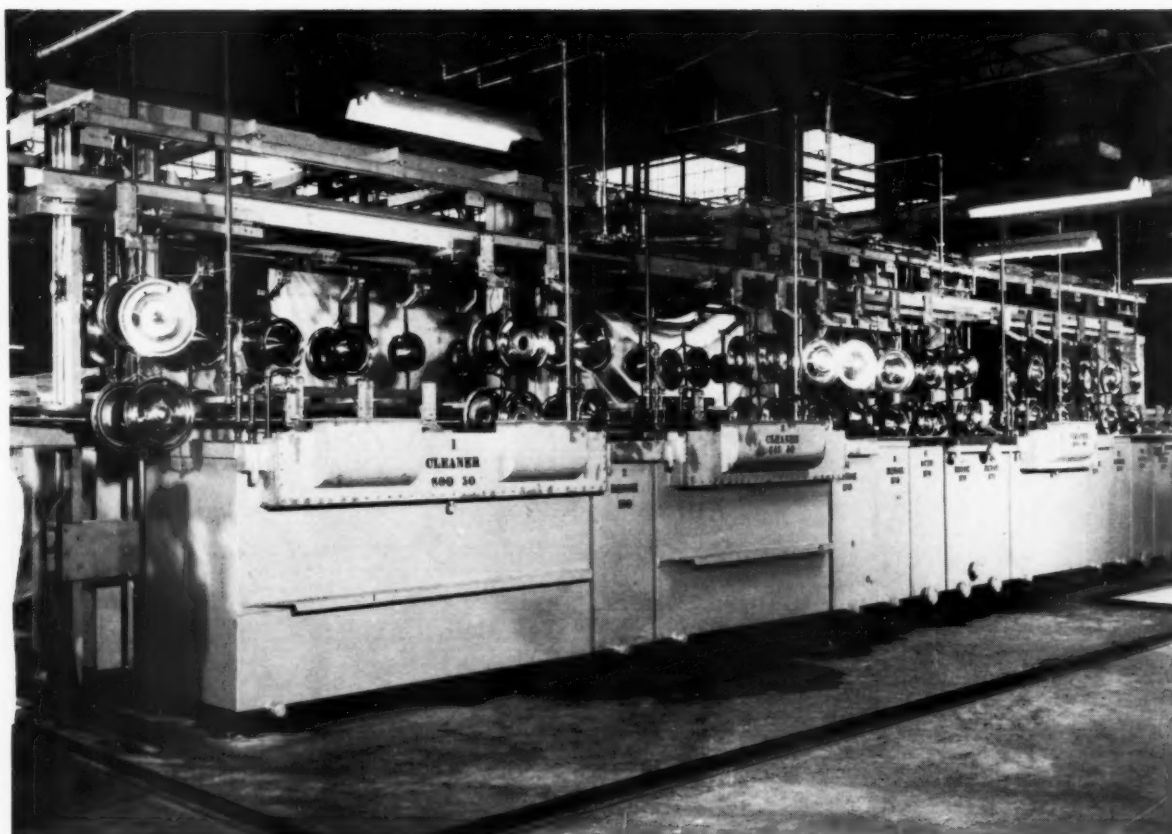
General—bathroom accessories, cabinet trim, fluorescent or recessed light brackets, dispensable paper and towel racks, soap dishes, etc.



Be sure to get the facts about Specification Plate on APOLLO ChromSteel. If you have any design or production problems, ask about APOLLO's special services. They're available without obligation. Why not contact APOLLO today?

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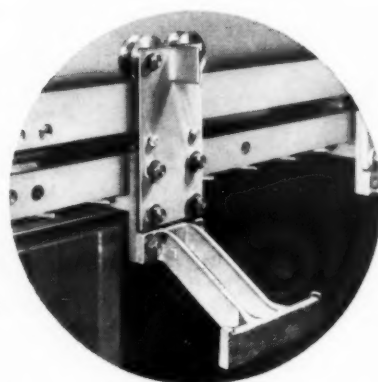


New Meaker Uniline machine provides high quality plating at high speeds

This Meaker Uniline Plating Machine was built to meet the rigid requirements of Namsco, Inc. in Bellwood, Illinois. It provides them with a continuous **uninterrupted high speed operation** that produces extremely high quality plating of replacement hub caps and wheel covers. This Meaker single row machine has a production capacity of **120 racks per hour** and handles the complete operation from cleaning to Nickel and Chrome plating.

Effective vertical length of rack is 34", width in direction of travel is 15" and tank widths are 16".

For your plating or anodizing equipment, look to Meaker . . . the name backed by a reputation for building the best for 50 years.



Electrical contacts on carriers are positive in action due to constant load pressure and the current path from cathode rail to rack is short, minimizing voltage loss.

write for New Bulletin U-658

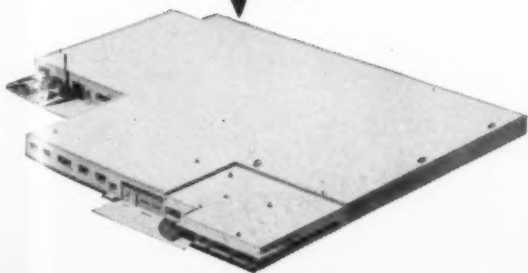
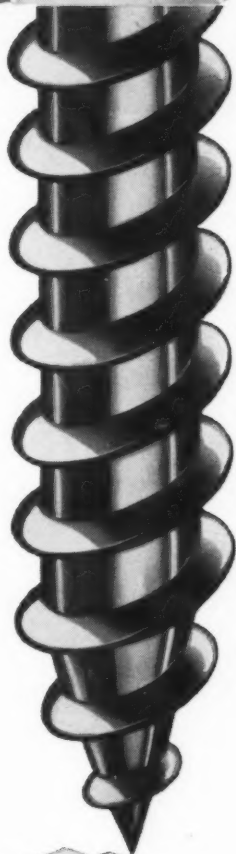
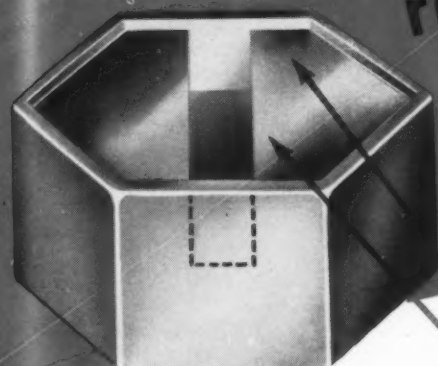


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FIRST
MAJOR
ADVANCE
IN FIVE
YEARS!

**THREE NOTABLE
FIRSTS BY FERRO**

- Continuous smelting of frit
- Roll-quenching, and "flake" enamels
- More effective mill-addition agents
for better porcelain enameling
of ALUMINUM

NEW PORCELAIN ENAMELS FOR ALUMINUM

Three separate but closely meshed Ferro developments provide better frits, better mill formulae, easier application, more consistent and predictable results

Ferro research scores again . . . with the first major advance in five years in porcelain enamels for aluminum.

From Ferro's *production research* comes a new "flake" frit with greater workability, greater uniformity, and easier to handle in production. It's a product of *continuous smelting* and *roll-quenching*, a process pioneered by Ferro and now used extensively to maintain the desired qualities consistently in porcelain enamels for steel.

From Ferro's *product development research* comes "flake" frit that produces enamels easier to hold in suspension in the slip stage. These enamels hold up well in storage, greatly reducing application problems caused by "aging" of the milled enamel.

From Ferro's *customer service research* come

techniques for using new types of mill-addition agents. These *dry* agents (like sodium silicate, boric acid, etc.) and certain *new* wet agents provide greater flexibility in "tailoring" porcelain enamels for specific applications on aluminum, in overcoming problems arising from local plant conditions, in holding colors constant in production.

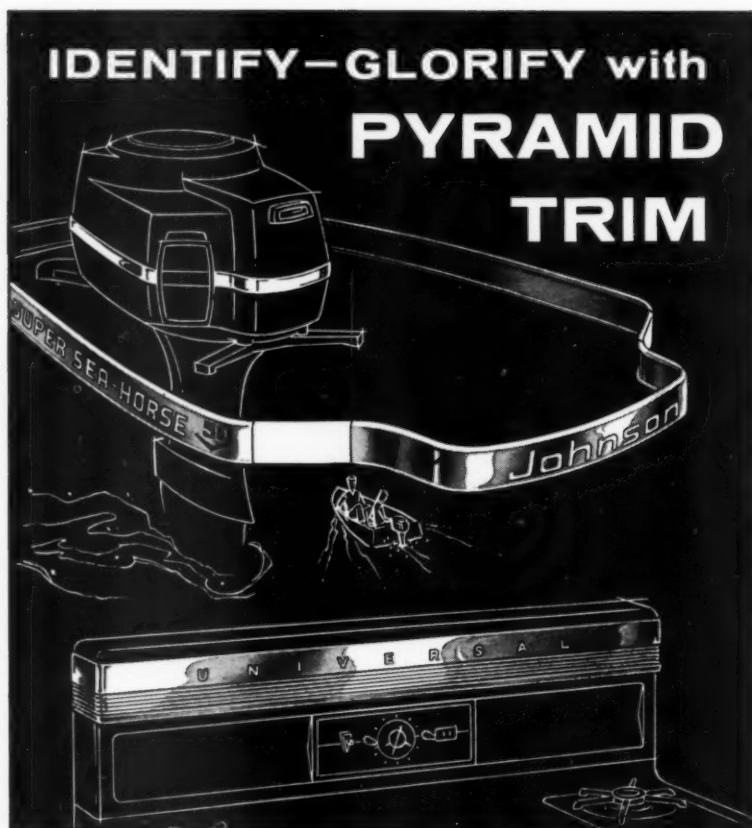
Users of porcelain enamels for aluminum can enjoy the benefits of this joint research immediately. The new flake-making facilities are in production. The new enamels have undergone extensive tests and are ready. The new mill-addition procedures, while subject to still further experimentation and improvement, are in the hands of our field servicemen.

When can we come in and *show* you how these Ferro developments can work for *you*?



FERRO CORPORATION

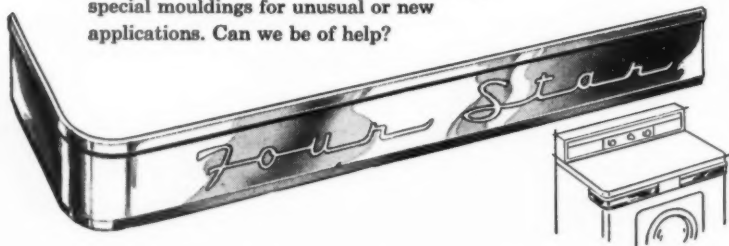
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from the
Editor's Mail

Wants tear sheets

Gentlemen: Please send me tear sheets (2 sets) of "Automatic Brazing Speeds Coil Making." It appeared in METAL PRODUCTS MANUFACTURING, December, 1958.

Mary Powell, Librarian
Engineering Div., The Trane Co.
La Crosse, Wis.

Misses MPM

Gentlemen: Since leaving Reynolds Metals Co., Louisville, one of the publications I have missed most is METAL PRODUCTS MANUFACTURING, and I would like to correct this deficiency by having you add my name to your subscription list.

F. F. Tiffany, Regional Sales Manager
Aluminum Div., Olin Mathieson Chemical Corp.
Cincinnati, Ohio

Inquiry from England

Gentlemen: We are interested in an article in your June, 1958 issue; page 83, "Molybdenum Coatings." Could you let us have a tear sheet of this? If not, could you let us know the price, plus postage, and then we can get our book-sellers to purchase this one journal for us.

Miss J. Radcliffe, Librarian
Salford Electrical Instruments, Ltd.
Stockport, Cheshire, England

More on molybdenum coatings

Gentlemen: I should be much obliged if you could forward any further information you may have regarding "New process offers high density coatings of molybdenum," which appeared in your June issue of METAL PRODUCTS MANUFACTURING.

F. Brook, Research Laboratories
The General Electric Co., Ltd.
Wembley, England

Wishes case history

Gentlemen: Please send me a copy of "Case history of a new type porcelain enameling furnace," which appeared in the December, 1957 issue of METAL PRODUCTS MANUFACTURING.

A. V. Sigman, General Manager
Regal Heater Corp.
Los Angeles, Calif.

Vending machine manufacturer

Gentlemen: Thank you for your telling me you are continuing to keep my name on your complimentary mailing list for your magazine. I have been receiving this magazine from you since 1956, and

have always read it with great interest.

Again, thank you for your kindness in sending this magazine to us.

E. H. Behrend, Vice President, Mfg.
Vendorlator Mfg. Co.
Fresno, Calif.

Feels article well presented

Gentlemen: I wish to take this opportunity to thank you for the splendid manner in which you presented "The future of porcelain enamel and aluminized steel." These comments should be very interesting to all aluminum and aluminized steel users throughout the entire industry.

Dave Sawyer, Manager
Marveon, Ogden, Utah

Another enameler of aluminum

Gentlemen: I found your October, 1958 issue most interesting, particularly the various comments regarding the "Future of Porcelain Enameled Aluminum."

It was surprising to find that The Bettinger Corp. was not listed on page 47 as a porcelain enameler of aluminum. We have done many porcelain aluminum jobs and have, at our Rehoboth, Mass. plant, what is considered by many to be the finest facility for porcelain enameling of aluminum in the country.

G. R. Bates, Jr., Manager, Sales Promotion
The Bettinger Corp., Milford, Mass.

We have been following the growth in a number of plants in this field carefully. From less than half a dozen, three or four years ago, the number has grown to where it now exceeds thirty. The Bettinger Corp. will be added to this list immediately, and will be included in thousands of reprints of the article which have been ordered. Eds.

Glad to be of assistance

Gentlemen: This company is being formed, and will be in production within 60 days. We are installing the Alvit ovens and Dupont low temperature frits. Any technical information that you may be able to furnish to our company will be appreciated.

A. Roy Sawyer, President
Porcelain Metals, Inc.
Seattle, Wash.

A reprint, "Porcelain Enamel on Aluminum Comes of Age," has been sent to Mr. Sawyer. Eds.

Finds MPM useful

Gentlemen: At present we are receiving one copy of your publication on an exchange basis. We find METAL PRODUCTS MANUFACTURING so useful that we would like to receive a second copy regularly.

Please, therefore, initiate a second subscription with the forthcoming issue and bill us accordingly. . .

William S. Resnick, Manager
American Trade Press Clipping Bureau
New York, N. Y.

MPM JANUARY • 1959

GENERAL INDUSTRIES

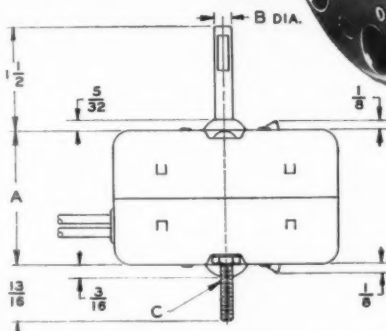
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Nearly half a century of design and manufacturing experience in the small motor field enables G. I. to offer the most advanced engineering features. This, together with top-notch production know-how and latest manufacturing facilities assure you quality, dependability and economy so necessary to the success of your products.



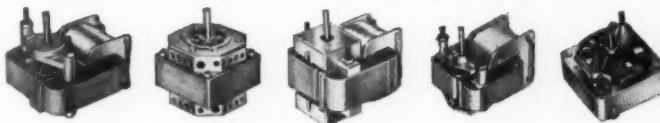
MODEL-B FOUR POLE, FOUR-COIL SHADED POLE MOTOR

Designed for long life and dynamically balanced for extremely quiet operation. Self aligning, self lubricating bronze bearings, baked, varnish-impregnated windings, ample oil reservoir located for easy lubrication. Smooth, quiet — field proven!

MODEL	HP 1500 RPM	Locked Torque in./oz.	Max. Torque in./oz.	Free Speed RPM	Amps 1500 RPM	Watts 1500 RPM	A	B	C	Wt. Lbs.
B-5-CW B-5-CCW	1/80	3.5	11	1735	.7	53	1 1/8"	1/4"	8-32	2.0
B-8-CW B-8-CCW	1/50	4.0	14	1750	.85	63	2 3/8"	1/4"	10-32	2.7
B-10-CW B-10-CCW	1/40	4.7	18	1750	.95	72	2 3/8"	3/8"	10-32	3.1
B-12-CW B-12-CCW	1/35	4.7	20	1760	1.05	77	2 1/2"	3/8"	10-32	3.4

Above base on fan application with air stream flowing over motor, without air flow derating necessary.

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VERSATILE Hypalon^{*}-based finishes may be applied by roller coat, doctor blade, spray, dip or silk screen . . . air dry or bake.

WRITE for more specific information as to how our Hypalon^{*}-based formulas can be adapted to meet your specified needs.

AS the largest producers of coatings based on Hypalon^{*}, we invite you to investigate the marked advantages of its use on polyurethane, vinyl and rubber foams, rubber products, fabrics, metal, wood, concrete, plaster, hard-board and Mylar[®].

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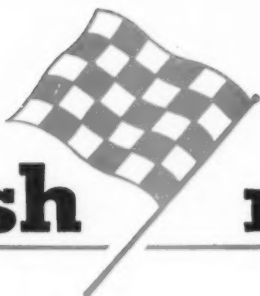


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LINE

TWENTY-SIX PLUS SIGNS appear in the Metal Products Statistics feature on page 70 of this issue — representing the greatest number of plus signs for any month since thirteen appeared in the August issue.

This comparison table (first ten months of 1958 with the same period of 1957) is in contrast to a similar report on production, shipment and sales figures (comparing ten months '57 with ten months '56) which appeared on this page just one year ago, with only five products boasting a gain.

As was expected, built-ins continue to show healthy gains, with gas ranges hitting 31.2 per cent + for October and 12.9 per cent + for ten months. Electric ranges (built-in) increased a spanking 79.4 per cent for October and 21.6 per cent for the ten month period.

Water heaters showed modest gains for the ten months with gas-fired registering + 3.3 per cent and electric heaters showing + 3.5 per cent.

Gas furnaces showed a fine gain of 16.4 per cent for the ten months and with October showing a 29.3 per cent gain for the month.

Radio and television represent the weak spots in the statistical picture, with the former showing —22 per cent and the latter —20 per cent for the period.

The forecast symposium

As is customary, MPM presents a summation of forecasts by those whose business it is to study the progress of the appliance and fabricated metal products field.

A few highlights appear on this page, but MPM readers will want to read the more complete digests starting on page 27.

GAMA says 4.3 per cent up

The gas appliance and equipment manufacturing industry looks for a 4.3 per cent increase in unit sales in 1959.

Examples of anticipated gains for individual products include: gas range sales of 1,883,100 units, 2.5 per cent up; water heater sales of 2,742,100 units, 4.6 per cent up; central heating equipment sales of 1,134,700 units, 4.1 per cent up; other products show forecast increases of from 10.6 per cent for hotel and restaurant ranges to 36.3 per cent for incinerators.

AHLMA forecasts 5,100,000 units

The research experts on home laundry equipment state, through the American Home Laundry Manufacturer's Association, that if the present growth trend continues, the in-

dustry will have "an easy time selling 5,100,000 units in 1959."

Automatic washers are the volume item with 2,800,000 units projected. Electric dryers are forecast to more than double factory sales for gas dryers at 900,000 and 400,000, respectively.

ARI reports encouraging outlook for '59

During 1958, the air conditioning and refrigeration industry showed worthwhile gains in some "departments," held its own in others, and showed slight declines for two products, according to ARI spokesmen.

Central residential air conditioning, and commercial and industrial installations, fared better than room air conditioners and some commercial refrigeration products.

The ARI report says, "The outlook for 1959 and the early sixties is even more encouraging. . ."

NEMA predicts 7 per cent gain for appliances

Electric appliance sales (major appliances, electric housewares, fans and commercial electric appliances) will be up 7 per cent in 1959 over 1958, according to the estimates of manufacturers in the industry.

Again, built-in ranges are to lead the way, with food waste disposers and automatic dishwashers playing an important role.

Electric products such as radio and television tubes, electronic components, automatic temperature controls, commercial air conditioning and refrigeration equipment, and commercial radio equipment are expected to advance in '59 by 9 per cent this year, for a total volume of \$7.1 billion.

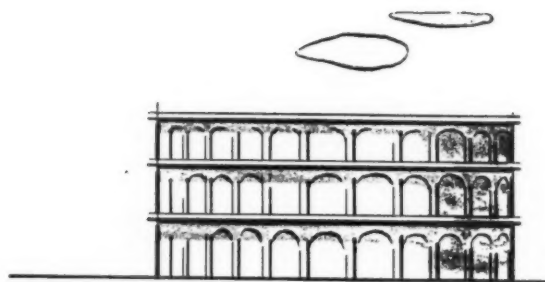
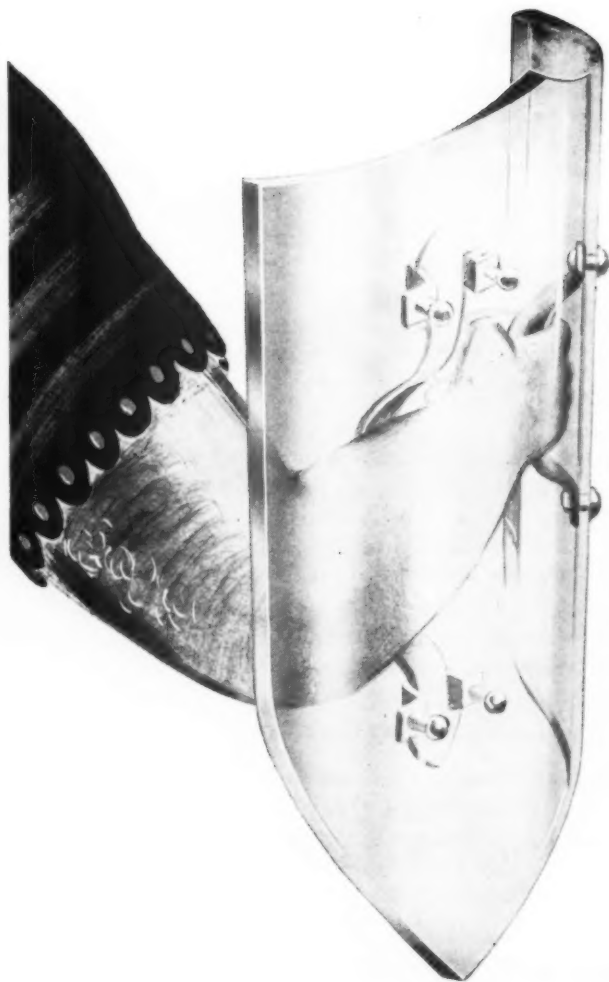
The electrical manufacturing industry as a whole expects to produce \$21 billion worth of goods in 1959.

In checking with associations and individual product manufacturers for forecasts and opinions, it became apparent that, while the overall picture is definitely pointing upward to increased production and sales in '59, to some degree the "conservative optimism" reported at this time last year is still in effect.

This speaks well for an industry that for several years considered increased sales a normal and automatic result of producing goods.

There seems little doubt that the industry is trying to upgrade its products, selling practices and service to the consumer. There is much to be done, but a start has been made.

Dana Chase
EDITOR AND PUBLISHER



this *Glass* shield, *while symbolic,*

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It's the easy, quick, and efficient method of cleaning prior to porcelain enameling.

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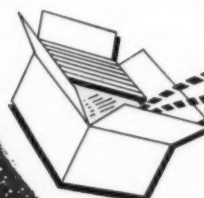
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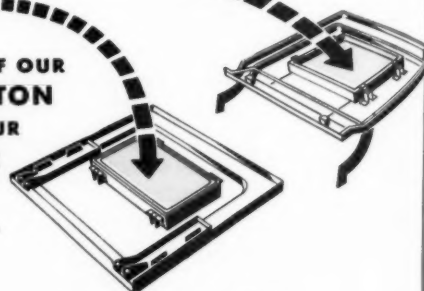
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These well known names and
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leading manufacturers of gas and
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PERMA-VIEW windows.

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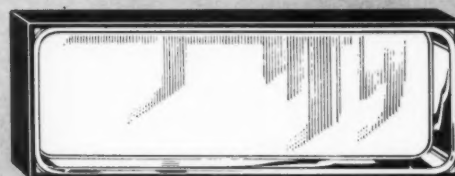
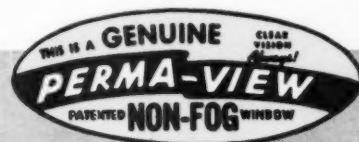
With the growing trend to built-in appliances more and more leading manufacturers of built-in oven units have turned to PERMA-VIEW "the window you can see through always."

The strong steel encased, double pane PERMA-VIEW window incorporates the finest quality heat resisting glass. It is mechanically sealed to prevent infiltration of vapors and to eliminate "fogging." This "No-Fog" window meets the constantly growing demand for "visible baking."

As a practical, economical and effective sales feature PERMA-VIEW can be your best salesman. Be sure you take advantage of this sales feature in your new built-in models.

The PERMA-VIEW window is pre-engineered, and comes to you ready for immediate installation in your range. "Out of the carton into your door." Let our specialized production lines serve as a part of your subassembly facilities. Phone or write us for complete details on the ease and economy of adding this important sales feature.

A phone call or letter will bring an experienced engineer to your plant for prompt consultation. PHONE Market 4-1591, WALLED LAKE, MICHIGAN.



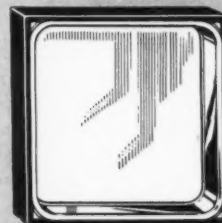
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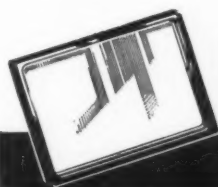


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Compare the properties of VITRILAN LC with finishes costing as much as \$1 per gallon more! Compare it with the high-priced acrylics for color and color retention, soap and detergent resistance. Compare it with the epoxies for hardness and toughness.

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Your production people will like VITRILAN LC too. It handles beautifully . . . can be sprayed, dipped or flow coated . . . bakes at conventional schedules.

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stainless, phosphatized
and galvanized steel,
anodized aluminum and
glass included in new
Dariomatic vending machine



New vendor has unitized structure

MPM
EXCLUSIVE
FEATURE

COINCIDENT with the publishing of this MPM feature, Dariomatic, Inc., manufacturers of automatic beverage vending machines, announces their new Dariomatic "510" and "610" milk and juice vending machines.

The "Dariomatic 505," predecessor of the "510" and "610," was the first Dariomatic machine to receive the attention of an industrial designer. Howard Lewis, president of Dariomatic, Inc., retained Channing Wallace Gilson, Industrial Design, to do the appearance design and assist in problems of user relationships and fabrication. The previous model "505" has been well received, but mounting production and freight costs indicated that a new, low-

This is original Model 505 for comparison to new Model 510.



This is original proposal by the industrial designer in a perspective sketch. Note how closely the proposal was followed in the production model shown on the following pages.

cost model was necessary in order to compete in the fast-growing Automatic Merchandising Industry. Although the "505" has been in production for only three years, a "new look" was in order, and Lewis called in his industrial design consulting firm to participate in development of the new models, which are described here.

The new design features a spot-welded, unitized structural steel frame, overlaid with 18-gauge cold rolled phosphatized steel. The product storage area is insulated with a two-inch wall of glass fibre insulation, and the interior is lined with galvanized steel.

Unitized frame prevents door sag

Loading is from the front, by swinging back the large "no-sag" door 180°. Since the door is large and heavy, as much as 1/2-inch of sag occurred initially, but this was solved by Dariomatic engineers through the use of a unitized frame. The four-inch thick door contains a chute through which products pass to the delivery point beyond a see-through plastic delivery door.

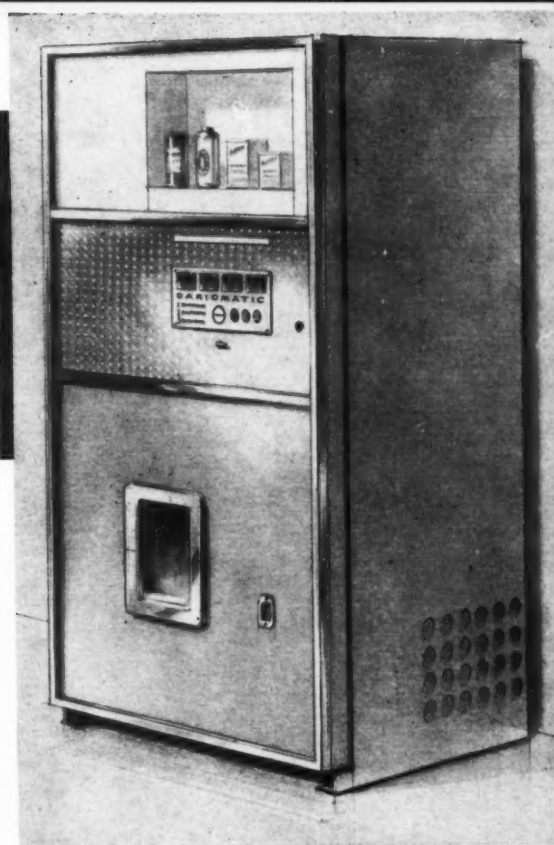
By an increase of nine inches in the overall height, from the basic four-item machine, Dariomatic achieved the extra storage space necessary for the addition

of a fifth item. This gives the customer a choice of either a four- or a five-item machine.

Panoramic display window

Perhaps the outstanding feature of the "510" is the new "Panoramic Display" window. Unlike many vending machines, the window of the "510" is at average viewing height for convenience and quick product recognition. A cut-out in the sheet metal on the right side provides illuminated dry merchandising display for products being sold. This "Tiffany Display Window" was the first to be introduced in the carton-beverage vending field. Products may be milk, beverages, fruit juices, salads or desserts, in cartons or cans. The space on the left provides room for show card-type advertising. The card may be inserted and removed from behind the door through the product display window.

A full-width pane of 3/16-inch glass covers the two areas with approximately .040-inch clearance on the left side for the show card. Directly beneath the window, a large full-width textured, anodized aluminum panel protects and beautifies the operating area. Mounted to this panel, and directly below the





▲ This is the new Model 510 Dariomatic vending machine, of four-product capacity, for milk, juice, or beverage.

ILLUSTRATION COURTESY CHANNING WALLACE GILSON INDUSTRIAL DESIGN

product display, is the control panel containing the selector buttons, instructions, coin slot, and trade name.

Purchase is made simply by inserting coin and pressing the selector button under the desired product. Various products can be sold at different prices, and the correct change is delivered into the coin return cup. Below the control panel there is a release for damaged coins.

Stainless steel trim

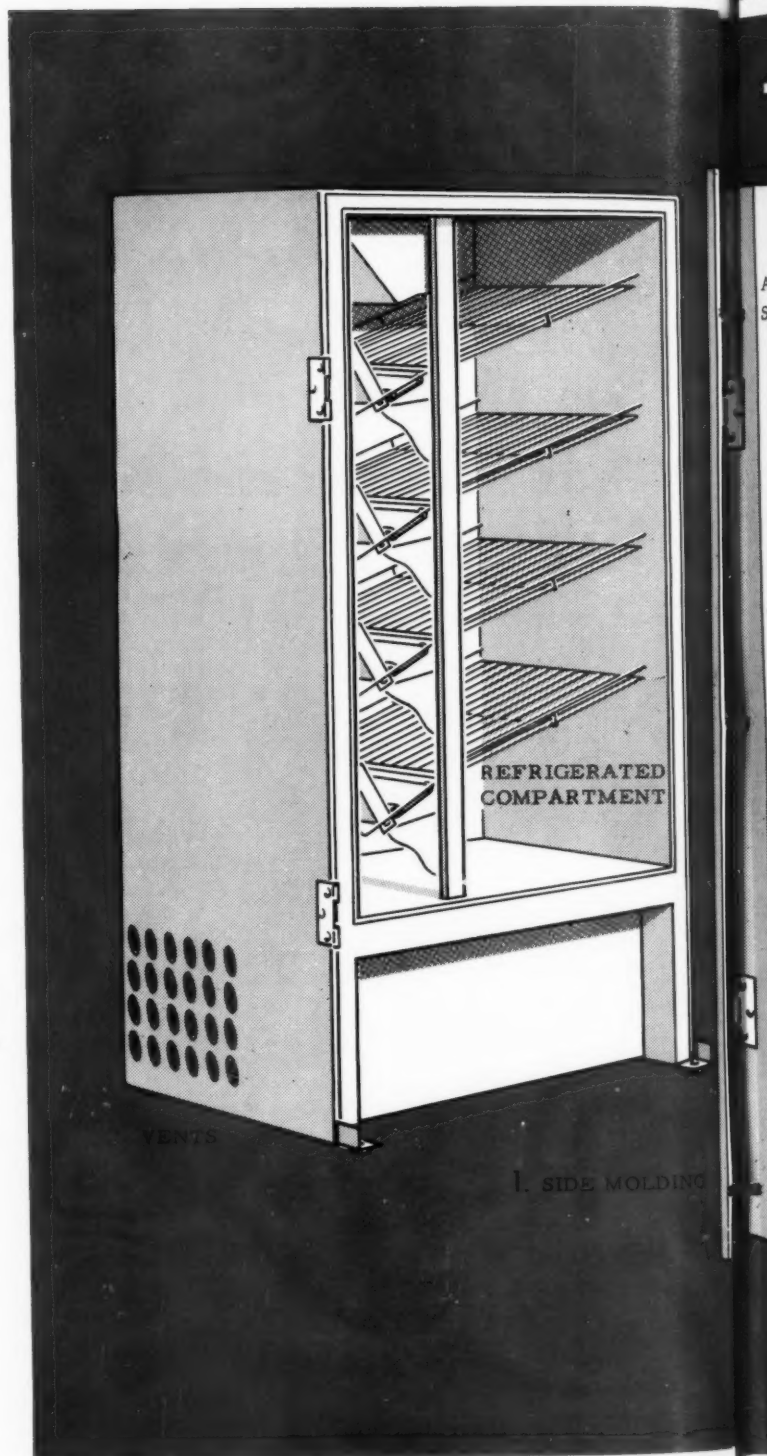
All moldings are of roll formed stainless steel matched side to side, top to bottom, and across the front. Roll formed stainless steel seemed to offer the best solution to the trim problem because it gives the desired appearance through right angle sections. It is durable and easily attached with screws from behind, and the protruding sections also offer edge and face protection.

The Model 510 vending machine is available in turquoise blue, hammetone green, or hammetone gray baked enamel finish. The merchandise display window in all cases is finished in white.

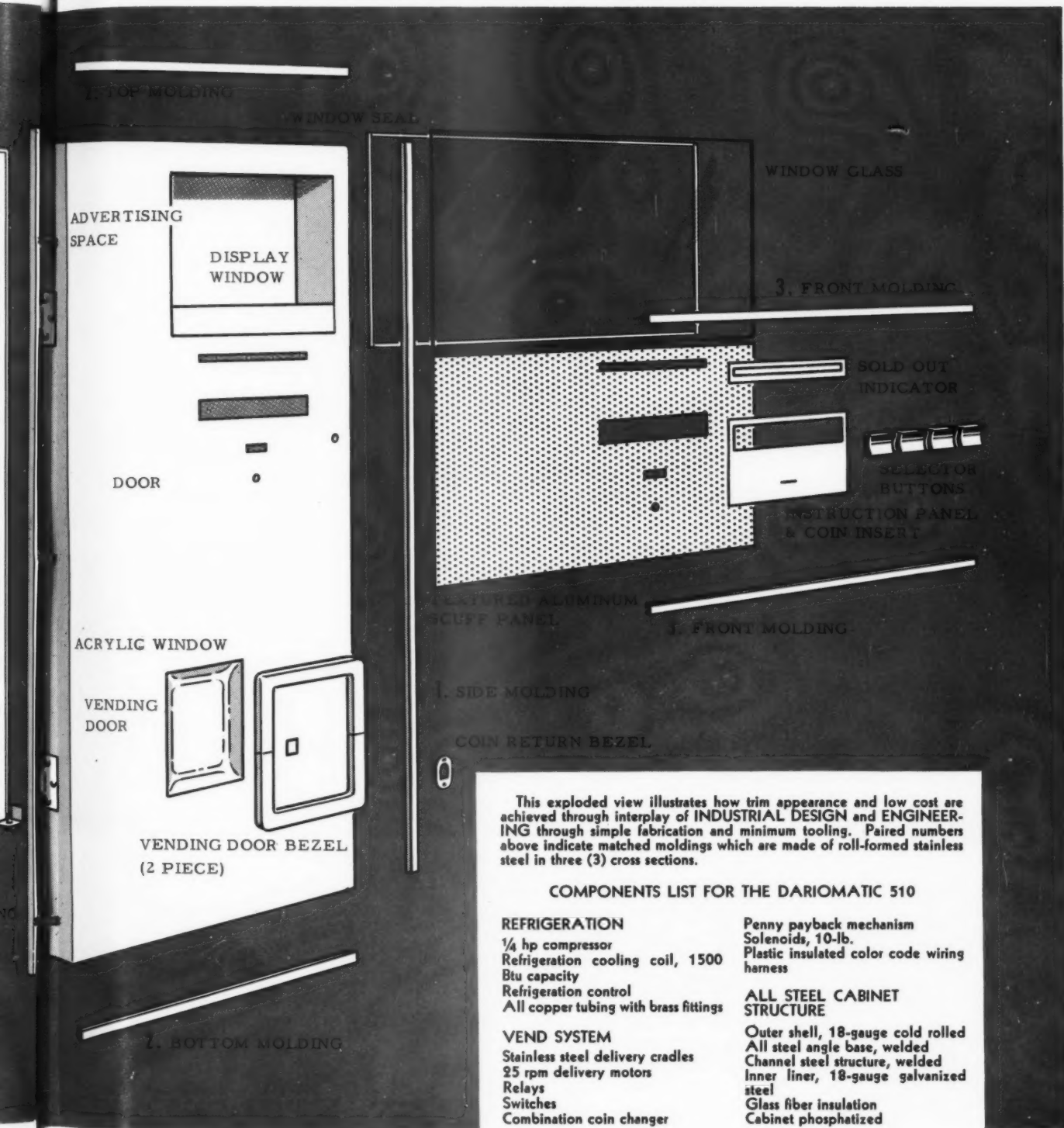
IMPORTANT DESIGN FEATURES

Design features considered important in the Dariomatic 510 include the following: 1. Easy identity of product by

EXPLODED VIEW OF



VIEW OF THE MODEL 510 DARIOMATIC VENDING MACHINE



using a large, well-lighted display. 2. Easy operation through simple, large selector buttons. Large red circle identifies place for coin insert. 3. Sales appeal through color and detail—white to

emphasize cleanliness of products; blue, green and gray to connote cool, refrigerated products; glass, stainless trim, and textured metal panel to convey quality products. 4. Straightforward design for

simple fabrication at the factory, and for easy maintenance at point of installation.

This summarizes the highlights of this new product, plus the progress that was made by introducing a unitized structure.



'WEIRKOTE'S® SOMETHING SPECIAL! IT CAN END THE NEED FOR ANY FURTHER CORROSION PROTECTION AFTER FABRICATION.'

- Q. You mean it? Weirkote can save you the cost of any further processing for corrosion protection after fabrication?
- A. Absolutely. It's the continuous process that does it. Integrates the zinc to the steel so tightly there's never any peeling or flaking. No matter how severe the fabrication—any torture test you put it through—that bond stays put!
- Q. Hmmm. Weirkote sounds great. One thing—is its zinc coating uniform throughout?
- A. To the nth degree! Even the hardest-to-reach areas on the most complicated fabrications are completely protected.
- Q. Corrosion-protected, you mean?
- A. Corrosion-protected all over! So much so that you can work Weirkote to the very limits of the steel itself. So there you have it: stepped-up manufacturing efficiency, sharply curtailed manufacturing costs. All from Weirkote!

Send for free booklet that details the time-and-cost-saving advantages of skin-tight zinc-coated Weirkote. Just write Weirton Steel Company, Dept. R-1, Weirton, West Virginia.



**WEIRTON STEEL
COMPANY**

WEIRTON, WEST VIRGINIA

a division of

NATIONAL STEEL CORPORATION

FORECASTS FOR HOME APPLIANCES

GAMA-AHLMA-ARI-NEMA

opinions from individual and product manufacturers

AN ANNUAL MPM SERVICE FEATURE

The outlook in the gas appliance field

a year of progress and opportunity for gas appliance and equipment manufacturers

by Edward R. Martin • DIRECTOR MARKETING AND STATISTICS
GAS APPLIANCE MANUFACTURERS ASSOCIATION

THE GAS APPLIANCE and equipment manufacturing industry, as a whole, anticipates unit sales in 1959 will be 4.3 per cent greater than during the previous year. Naturally, the increases will not be uniform among the various product categories.

The latter half of 1958 was characterized by a strengthening of consumer demand and, to some extent, a re-alignment of consumer thinking. The consumer, for the better part of a year, tended towards deferring purchases of major consumer items. Now, using last-quarter shipments of household appliances as a barometer, it appears that the economy is reaching the end of the recession and deferred purchase period.

With regard to overall business conditions during the coming year, there is universal agreement that the more vigorous activity which started in the last quarter of this year, will continue to gain momentum, particularly during the first half of 1959.

Among the more optimistic signs on the 1959 horizon is the current low status of inventory, which could, in the light of anticipated residential construction rates, and stepped-up modernization programs, make a major contribution towards full economic recovery. . .

The 1960's are forecast as a period where new family formations will be made at a record rate, with these new purchasing units, as well as the established units, having behind them the power of employment and higher levels of spendable income.

ANTICIPATED 1959 INDUSTRY UNIT SALES
Compared with estimated 1958 unit sales

	Unit shipments			July, 1958 consensus '59-'58 % change
	1959 (Consensus)	1958 (Estimated*)	% change 1959-1958	
1. Domestic gas ranges:				
a. Free standing	1,630,000	1,614,700	+ 0.9	+ 0.2
b. Built-ins (oven-broiler units)	253,100	222,900	+13.5	+14.9
c. Total	1,883,100	1,837,600	+ 2.5	+ 1.9
2. Automatic gas water heaters:				
a. Under 40 gallons	1,903,100	1,874,500	+ 1.5	—
b. 40 gallons & over	839,000	747,200	+12.3	—
c. Total	2,742,100	2,621,700	+ 4.6	+ 2.0
3. Gas central heating equipment:				
a. Warm-air furnaces	863,800	818,600	+ 5.5	+10.0
b. Boilers	127,100	120,900	+ 5.1	+ 3.5
c. Conversion burners	143,800	150,800	- 4.6	- 2.6
d. Total	1,134,700	1,090,300	+ 4.1	+ 7.6
4. Gas direct heating equipment	1,371,500	1,345,300	+ 1.9	+ 9.3
5. Gas vented recessed wall htrs.	406,200	379,400	+ 7.1	+ 3.3
6. Gas floor furnaces	87,500	94,900	- 7.8	- 2.5
7. Gas clothes dryers **	461,600	412,100	+12.0	+12.0
8. Gas incinerators	65,300	47,900	+36.3	+41.0
9. Gas unit heaters	124,300	110,100	+12.9	+19.0
10. Gas duct furnaces	20,300	18,200	+11.5	+17.4
11. Commercial gas ranges	34,300	31,000	+10.6	- 6.7

*Ten months actual, two months estimated.

**Based upon American Home Laundry Manufacturers Assn. data. Figures include combination washer-gas dryer units.

Thus, 1959 shapes up as a year of progress and opportunity. Its sales attainments will surpass those of 1958. Most important, the coming year shapes up as the spearhead of the nation's approach to the growing markets which should be at their peaks by the mid '60's.

Gas appliances and equipment

The year 1958 was not a uniform year insofar as residential gas equipment and appliances sales were concerned. Household equipment, such as water heaters and central heating equipment, amassed sales well above the volumes of the previous year. On the other hand, appliances such as ranges and laundry equipment, for the year as a whole, found sales falling below 1957 volumes.

However, gas appliance sales were decidedly improved during the last quarter and substantially exceeded the levels of the last quarter of 1957. Manufacturers of appliances look for a continuation of these trends during the coming year.

Printed with this report is a summary presenting the consensus of anticipated 1959 volumes as compared with the estimated unit sales for 1958. Changes in manufacturers' thinking over the past six months can be reflected by comparing the percentage figures in the last two columns. The figures in the fourth column represent the consensus as to 1959 industry columns in July of 1958.

This table represents the composite of manufacturers' thinking.

Anticipated sales volumes by product

In comparison with 1958 unit sales, here's the way this year looks to the manufacturers:

Domestic Gas Range Sales will total 1,883,100 units, 2.5 per cent greater than 1958 volumes. Built-in sales will be increased by 13.5 per cent and free-standing sales will increase 0.9 per cent. Gas range manufacturers are a little more optimistic over the 1959 outlook than they were last July.

Automatic Gas Water Heater Sales are expected to increase 4.6 per cent to 2,742,100 units. The trend towards larger tank capacities is expected to continue, with sales of 40 gallon and over heaters increasing 12.3 per cent. Water heater manufacturers also view 1959 more optimistically than they did six months ago.

Gas Central Heating Equipment manufacturers now expect 1959 sales to approximate 1,134,700 units, or 4.1 per cent greater than for 1958. Last July, the consensus was that 1959 sales would equal 1,089,300 units. Warm-air furnace and boiler manufacturers expect sales to increase, respectively, 5.5 per cent and 5.1 per cent, while conversion burner manufacturers expect 1959 sales to decline 4.6 per cent.

Vented Recessed Wall Heater manufacturers expect 1959 sales to increase 7.1 per cent to 406,200 units, perhaps at the expense of **Floor Furnace sales**, which are expected to drop 7.8 per cent to 87,500 units. Vented recessed wall heater producers are more optimistic than in July, while floor furnace producers now expect a sharper decline in 1959 volumes.

Direct Heating Equipment Sales are indicated at 1,371,500 units, 1.9 per cent more than for 1958. Manufacturers of this type of equipment are somewhat less optimistic than they were six months ago.

Gas Clothes Dryer Sales, according to data released by the American Home Laundry Manufacturers Association, look for 1959 sales of 461,600 units, an increase of 12 per cent. These figures include combination washer-dryer units. This GAMA survey finds current manufacturer thinking on about the same plane as in July of 1958.

Gas Incinerator manufacturers expect 1959 sales of 65,300 units, an increase of 36.3 per cent over the previous year. Manufacturer thinking as to the coming year's volumes is basically unchanged from six months ago.

Hotel and Restaurant Range manufacturers expect 1959 volumes to increase 10.6 per cent to 34,300 units. They are far more optimistic than at the time of our mid-year consensus study.

Gas Unit Heater and Duct Furnace sales are expected to total 124,300 units and 20,300 units, respectively. Unit heater sales will increase 12.9 and duct furnaces 11.5 per cent. Manufacturers of both types of equipment continue a high degree of optimism.

In conclusion, the anticipated 1959 sales volumes for gas appliances and equipment appear in tune with the overall economy. Moreover, the realignment and re-direction of the gas industry's major promotional and advertising efforts, coupled with its technical research programs, constitute a sound approach and understanding of the markets, both for the coming year and the future.

Home laundry sales gains for 1959

research experts of home laundry industry forecast 5,100,000 units

by *Guenther Baumgart* • PRESIDENT, AMERICAN HOME LAUNDRY MANUFACTURERS' ASSOCIATION

AN ANALYSIS of the seasonal pattern of home laundry appliance factory sales shows a strong growth trend, probably based in some part on the growing optimism of consumers and their willingness to commit themselves to major purchases, i.e., in the idea that "the recession is now over."

If this growth continues to be evident in 1959's early months — that is, if the downtrend is less than might seasonally be expected, the industry will have an easy time selling the 5,100,000 home laundry appliance units in 1959 forecast by the market research experts of the association's member companies.

The facts now support the belief that the final 1959 results may be even better than is indicated by a forecast which was made 60 days earlier.

Counter seasonal strength was evident throughout 1958. The first quarter held steady, for example, whereas there were declines in previous years in this same period.

The March to April drop was as expected and recovery was more or less steady from April to August, but at a greater rate of gain than in either of

the previous two years. In August, 1958 sales exceeded the corresponding 1957 monthly figure and began to challenge the 1956 alltime peak year monthly totals. New monthly sales records were established in both September and November, missing in October probably only because that was the highest single month in the history of the industry.

Factory sales increases from 1958 to 1959 are expected in all products except perhaps wringer washers which will hold about steady.

Home laundry equipment totals 40% of all major appliances

It is interesting to note that home laundry products have been growing relatively in importance in the appli-

Projected factory sales breakdown for 1959

Combinations.....	200,000
Automatic washers.....	2,800,000
Wringer washers.....	800,000
Gas dryers.....	400,000
Electric dryers.....	900,000

ance field. In 1950, home laundry appliances accounted for 32 per cent of all major appliance unit totals, whereas currently home laundry appliances have reached 40 per cent of the totals.

In estimated retail dollar value, home laundry appliances have jumped from 25 per cent of the total in 1950 to 35 per cent in 1958.

Favorable factors for increased home laundry appliance sales in 1959, in addition to the generally optimistic

shift in consumer attitude, include:

1. Low saturation. There exists today an unsold potential in 65 per cent of American homes for automatic washers and 84 per cent for dryers.
2. As the World War II "baby boom" comes of age, new family formations are increasing in rate.
3. "Wash and wear" garments are continuing their rapid rise in popularity, and wash and wear household items such as sheets, pillow cases, drapes, and slipcovers are appearing.
4. Technological improvements are being made in the machines themselves, especially those to match the needs of modern wash and wear.
5. The replacement market for older machines is growing, even for older automatics made in the previous peak years of 1949, 1950, etc.
6. The deferred demand for consumer goods, pent up during recent recession months, is now being felt. . . .

Encouraging outlook for '59 and early '60's

residential air conditioning should return to a normal growth curve

YEAR-END ROUNDUP *by D. V. Petrone, PRESIDENT, AND*

George S. Jones, Jr., MANAGING DIRECTOR, AIR-CONDITIONING AND REFRIGERATION INSTITUTE

DURING 1958, the air-conditioning and refrigeration industry showed appreciable gains in some departments, held its own in most others, and recorded only slight declines from 1957 in one or two types of products.

The outlook for 1959 and the early "sixties" is even more encouraging to this industry, which each year is entrenching itself more firmly as the producer of equipment which is desirable, and in many cases essential, to the Nation's health, productivity, and defense.

While it is too early to report definite final figures on sales and installations of air-conditioning and refrigeration equipment for 1958, all indications point to an increase in sales of central residential air-conditioning, as well as large commercial and industrial installations, and in a number of product lines in the commercial refrigeration field. Small declines will be registered in sales of room air-conditioners and some of the products used in commercial refrigeration.

Figures for the first three quarters of the year indicate that the almost 215,000 unitary air-conditioners (the type used in central residential installations as well as small commercial establishments) shipped in 1957 will be topped by manufacturers' shipments for 1958. Manufacturers of the large "systems" used in multi-story buildings such as hotels and apartment houses, as well as department stores and industrial plants, expect that 1958 figures will likewise show a gain over the previous year.

An index of the magnitude of the "big systems" is to be found in the fact that the installed value of systems (generally classified as having 25 tons or more

cooling capacity) amounted to \$598,900,000 in 1957, a figure to which it grew from a 1950 installed value of \$241,770,000. The industry estimates that about half of the volume goes into multi-room buildings, such as hotels, offices, and apartments, and that the other half is about equally divided between "other commercial" and industrial installations.

A 1957 Du Pont survey showed that only 22 per cent of all commercial and industrial establishments were completely air-conditioned, 9 per cent were partially air-conditioned, and 69 per cent had no mechanical air-conditioning of any kind. These are the figures on which the industry bases its optimism for 1959 and future years, as far as the commercial and industrial market for its product is concerned.

Non-air-conditioned

homes will be obsolete

In the residential air-conditioner field, a number of factors point to a return to the growth curve which was arrested in some degree by 1957 and 1958 sales. One of these is a policy statement made during 1958 by the Federal Housing Administration, in which inclusion of air-conditioning in FHA-guaranteed mortgages was urged on the ground that non-air-conditioned homes would be obsolete in many sections of the country in a decade.

Another was the inauguration, late in 1958, of a certification program for unitary air-conditioners. Cooperatively developed by the Air-Conditioning and Refrigeration Institute and the National Warm Air Heating and Air-Condition-

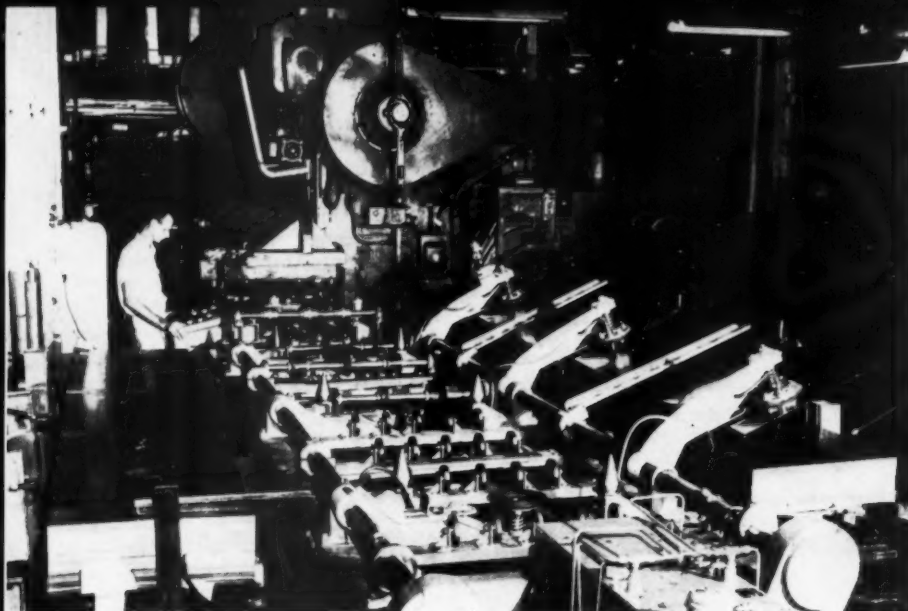
ing Association, the program calls for the production, testing and rating of these units in accordance with ARI Standard 210-58, and the use by participating manufacturers of a "seal of certification" to guarantee the conformance of their product to the ARI Standard. Use of the seal will be restricted to complying equipment through a contract between participating manufacturers and the ARI, with provision for withdrawal of the seal from non-complying producers.

It is felt that promotion of this program and the seal of quality, along with planned industry promotion of the benefits of air-conditioning, will result in an upswing in 1959 sales.

In the field of commercial and industrial refrigeration, development of new marketing methods for foods led the industry to design and manufacture new types of equipment for displaying frozen foods and those requiring refrigeration — two categories which approximate three-fourths of the national diet.

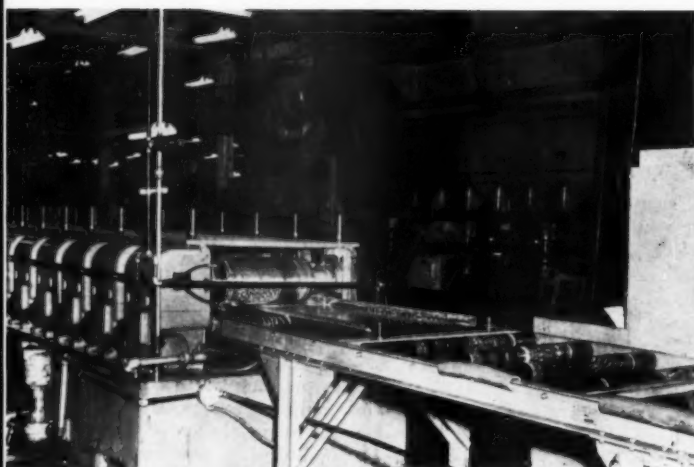
All in all, the multi-million dollar industry which has grown up around the so-called refrigeration cycle, feels that, although its growth in some departments has been only nominal in the past year, its potential is growing each year in all its phases, and that its possibilities for future growth are almost limitless. This includes the fields of home air-conditioning, commercial air-conditioning, industrial air-conditioning, and commercial and industrial refrigeration, as well as the specialized fields concerned with research, health, and national defense.

(See NEMA forecast on Page 61)

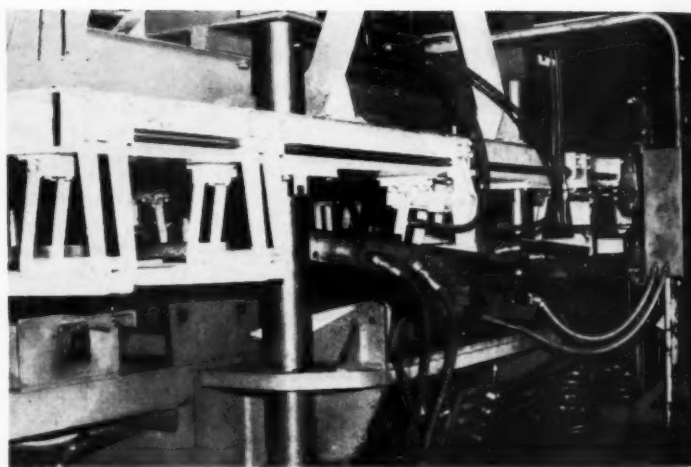


This destacker operates with a combination of vacuum cups, air jets, and magnetic rolls to feed the automatic fabricating line. Sheets are fed from both sides of the roller conveyor. One set of arms operate at a time until the supply of stock on one side is exhausted. The alternate set of arms operates on the other side while the stock supply is replenished.

An automated line for the fabrication of



This 18-stand roll forming machine bends the sides into flanges, one of which is a double-reversed flange.



This unit is used to offset corner flanges. It is equipped with an elevator to position the sheet for notching.

THIS PHOTO FEATURE shows an automated production line capable of producing over 130 cabinets per hour. As many as four of these lines may be found in a single manufacturing facility for the production of household refrigerators.

Sheet steel is hand trucked to the side of the automatic destacker and moved into position for loading. The destacker operates with a combination of vacuum cups, air jets, and magnetic rolls to start the sheets on their way through the successive operations in the automated line.

The sheets roll through the pierce and notching machine automatically. The

lower half of the blanking dies is fitted with twin roller conveyors. These roller conveyors retract as the press closes.

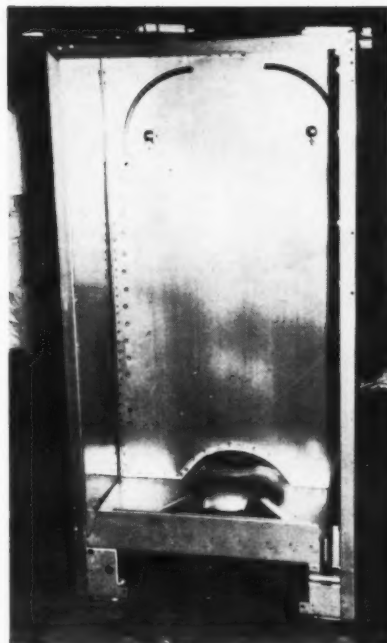
The roll forming machine is an 18-stand unit. This roll former bends the sides into flanges, one of which is a double-reversed flange. The flange offsetting unit is equipped with an elevator which lowers the sheet into position for offsetting. This offsetting keeps the edges separated during bending. Following punching, notching, forming, and bending comes a combination tangent bender and welder, a cabinet bottom and back welder (not shown in drawing), a down ender, corner seam and toe spot welder, and a back spot welder. The cabinet

bottom and back welder is adjacent to the combination tangent bender and welder. The back sheet and bottom sub-assembly are both manually loaded on this machine and automatically spot welded, and then moved into position on the main combination tangent bender and welder. The cabinets are upside down in this position. The down ender lays the cabinet down for succeeding welding operations.

There are approximately 150 different welds performed on a typical fabricated cabinet, consisting of some 40 spot welds at the tangent bending station and on the back-to-bottom welder, as well as seam welds and line projection welds.

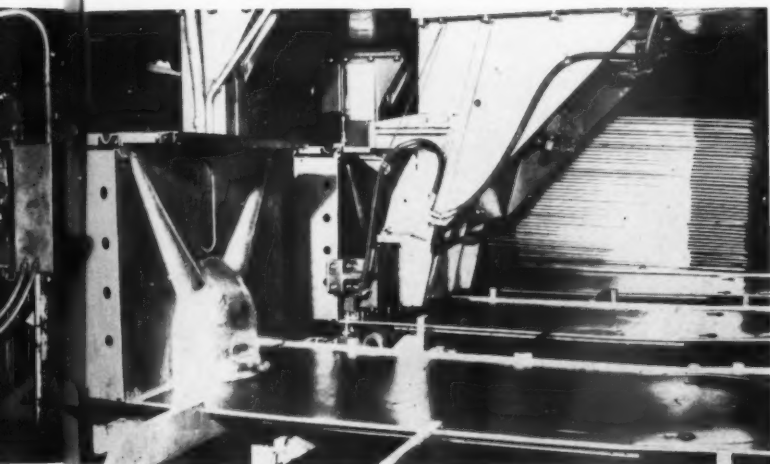
a photo feature showing the various steps in the automated manufacture of household refrigerator cabinets by a major producer of appliances

ILLUSTRATIONS COURTESY THE TAYLOR-WINFIELD CORP.

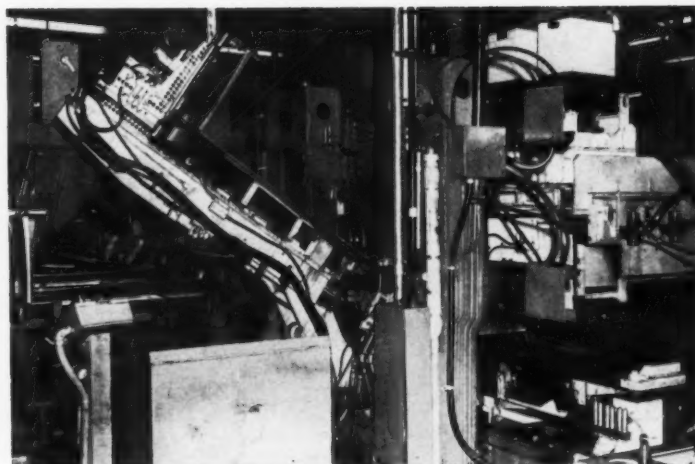


Fabricated domestic refrigerator cabinet typical of a unit which comes from the automated production line.

n of refrigerator cabinets



Cabinet bottom and back welder, adjoining main production line, enables part to move to automated line.



The bottom and back cabinet unit is lifted into position before the main sheet is bent on the tangent bender.

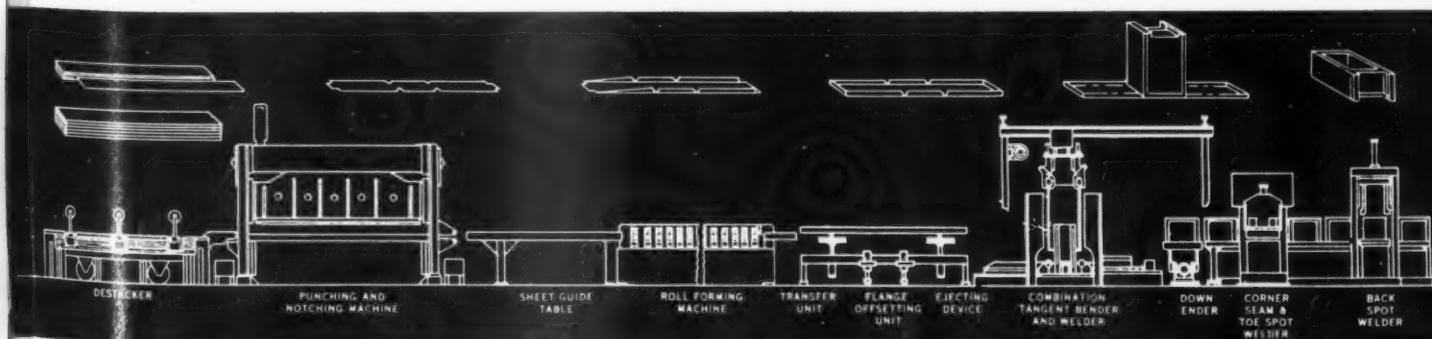
Then there are spot welds and dimple-projection welds at the corner and toe welder.

Production flow through the line is

controlled by a series of timers and limit switches. However, each individual machine has its own controls for set-up and adjustment operations.

This typical line is designed to handle five different sizes of cabinets. Sheet steel is .035 inches thick by 26 inches

to Page 33 →



MAC-BOND 71-D A 3-STAGE METAL PREPARATION SYSTEM

THE SIMPLIFIED PHOSPHATE OPERATION

1 Combination cleaner and phosphatizer.

2 Water rinses.

This test sheet was not protected with Mac-Bond.

3 Provides a chemically sealed coating for maximum corrosion resistance.

This test sheet was protected with Mac-Bond 71-D.

THAT GIVES THE PERFECT PAINT BOND

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PRODUCTS

Mac-Bond 71-D is a highly efficient and economical cleaner and phosphatizer suitable for pressure washers and still-tank cleaning and giving a maximum paint bond and rust resistant coating.

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WRITE OR PHONE FOR A MACCO SERVICE ENGINEER TO SHOW YOU
HOW THIS SYSTEM CAN SAVE YOUR PLANT MANY OPERATING DOLLARS

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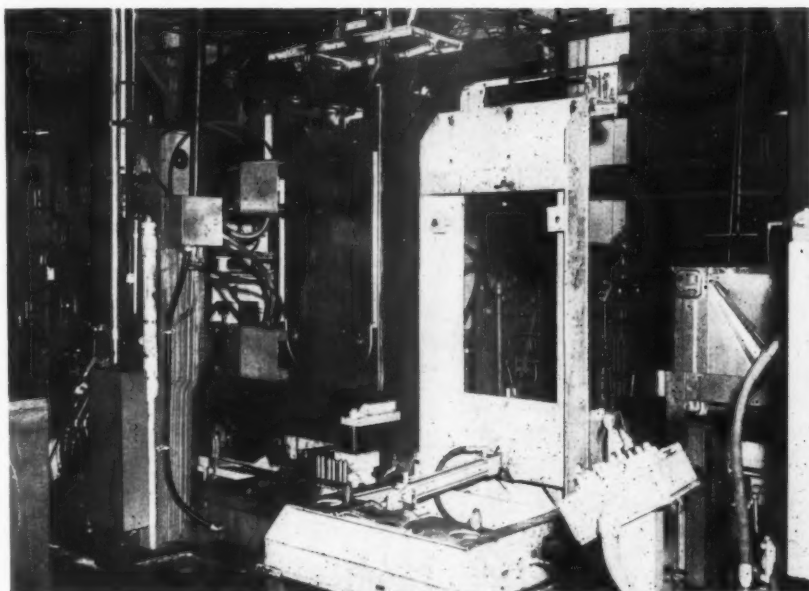
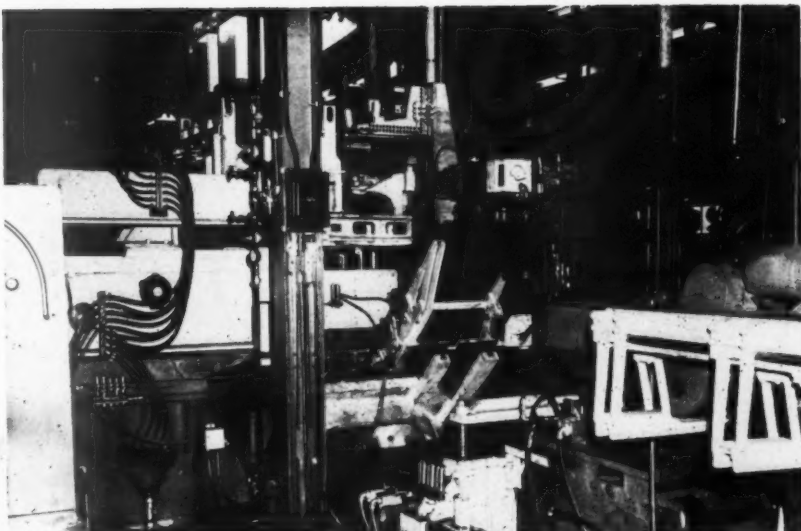
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THERE'S A MACCO CLEANER COMPOUNDED TO SOLVE
YOUR PARTICULAR PROBLEM • PHONE PRESCOTT 9-0800

wide, and the length varies to meet the cabinet size requirements.

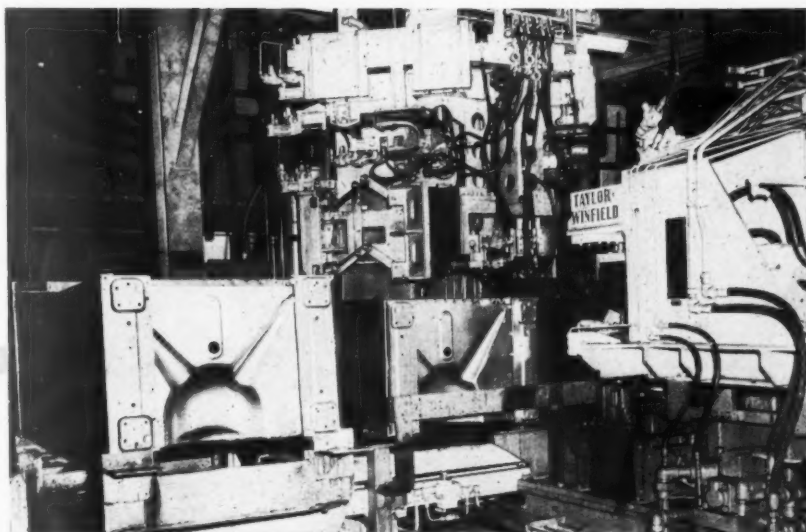
The automatic features of this line move the sheet through all the successive operations to the unloading station where the finished cabinet is transferred to a conveyor for transfer to later processing operations.

The sides of the cabinet are bent on this tangent bender and tack welded to the bottom-back unit.



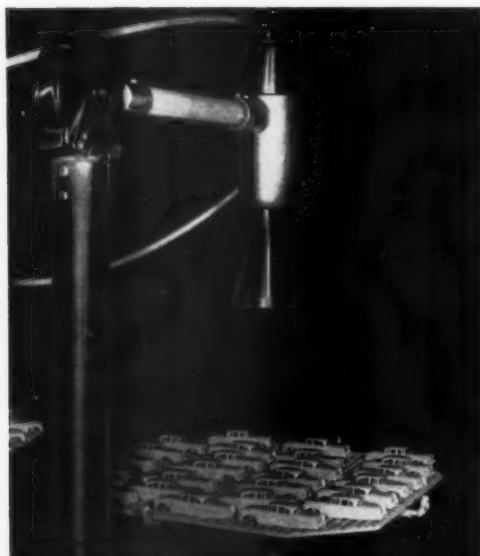
A transfer unit moves the cabinet onto the "down ender" for positioning for the final welding.

Twenty welds of four different types are performed at this station. Note position of cabinets.



tootsietoys

are painted by the millions with
RANSBURG NO. 2 PROCESS



Miniature automobile bodies of the tootsietoy line are efficiently and uniformly painted as trays of cars pass below one of the four Ransburg No. 2 Process atomizing bells.

QUALITY OF THE FINISH IS IMPROVED AND PAINT COSTS ARE CUT 65% WITH *Electrostatic Spray Painting*

Dowst Manufacturing Co., Chicago, are sticklers for quality in the production of tootsietoys which are turned out at the rate of 25 million a year.

That's one reason they changed from hand spray to Ransburg Electrostatic Spray Painting.

RESULTS? Rejects are cut from as much as 5% to about 1%, for they're getting a more uniform, higher quality coating on all parts.

Colors are changed easily, and paint mileage is stepped up substantially. For instance, on one toy item, a gallon of paint coated only 1800 units by hand spray. Now, with Ransburg No. 2 Process, they paint 5500 pieces per gallon. That's because of the unmatched efficiency of Ransburg No. 2 Process.

NO REASON WHY YOU CAN'T DO IT, TOO!

Whatever your product—whether it's large or small—we'd like to show you what RANSBURG ELECTROSTATIC PROCESSES can do for you in YOUR finishing department. Write for our No. 2 Process brochure which shows numerous production line examples of electrostatic spray painting on a wide variety of products.



RANSBURG
Electro-Coating Corp.
P. O. Box 7822 • Indianapolis 23, Indiana

INDUSTRY MEETINGS

HOUSEWARES

National Housewares Manufacturers' Association's National Housewares Exhibit, Chicago, Ill., January 12-16, 1959.

INDUSTRIAL HEATING

Industrial Heating Equipment Association, Inc., Hotel Cleveland, Cleveland, Ohio, January 19-20, 1959.

ELECTRICAL ENGINEERS

American Institute of Electrical Engineer's Winter General Meeting, New York, N. Y., January 19-23, 1959.

PLANT MAINTENANCE

Tenth Plant Maintenance and Engineering Show, Public Auditorium, Cleveland, Ohio, January 26-29, 1959.

HEATING & AIR-CONDITIONING

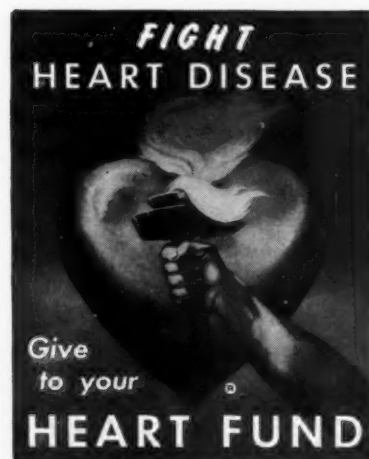
Fourteenth International Heating and Air-Conditioning Exposition, Auspices ASHAE, Convention Hall, Philadelphia, Pa., January 26-29, 1959.

WELDING

Fifth Annual Midwest Welding Conference, Illinois Institute of Technology Chemistry Building, Chicago, January 28-29, 1959.

METAL EXPOSITION

Eleventh Western Metal Exposition and Congress, American Society for Metals and Other Technical Groups, Pan-Pacific Auditorium and Ambassador Hotel, Los Angeles, Calif., March 16-20, 1959.





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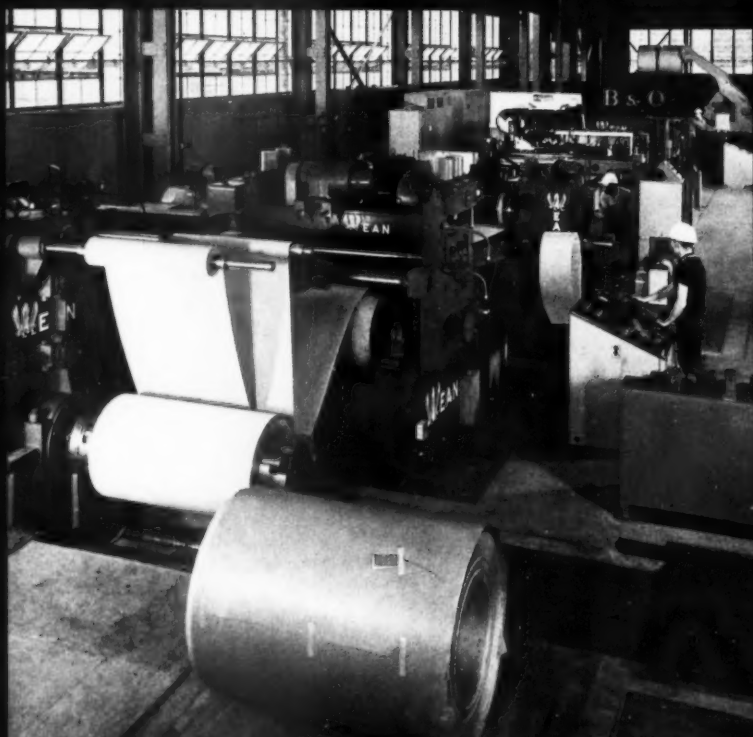
J & L's Completely New Stainless Mill...

designed and engineered to give you the fastest delivery on Quality Stainless Sheet and Strip

Now you can demand the quality you need and get the service you want from the most advanced stainless steel sheet and strip source in the industry. J & L's new Sendzimir Mill at Louisville, Ohio, is the result of years of planning by specialists to provide a new facility of such perfection that yield of the highest quality is assured.

J & L can now offer stainless sheet and strip to the most exacting specifications, producing stainless sheets to extremely close tolerances in widths up to 48 inches.

By efficient, flexible scheduling and adequate inventory support, J & L offers stainless steel buyers everywhere the fastest possible service.



▲ Coil Preparation Line for Incoming Hot Rolled Sheet



▲ The 54" Temper Mill

▼ Hot Anneal Furnace—Entry End

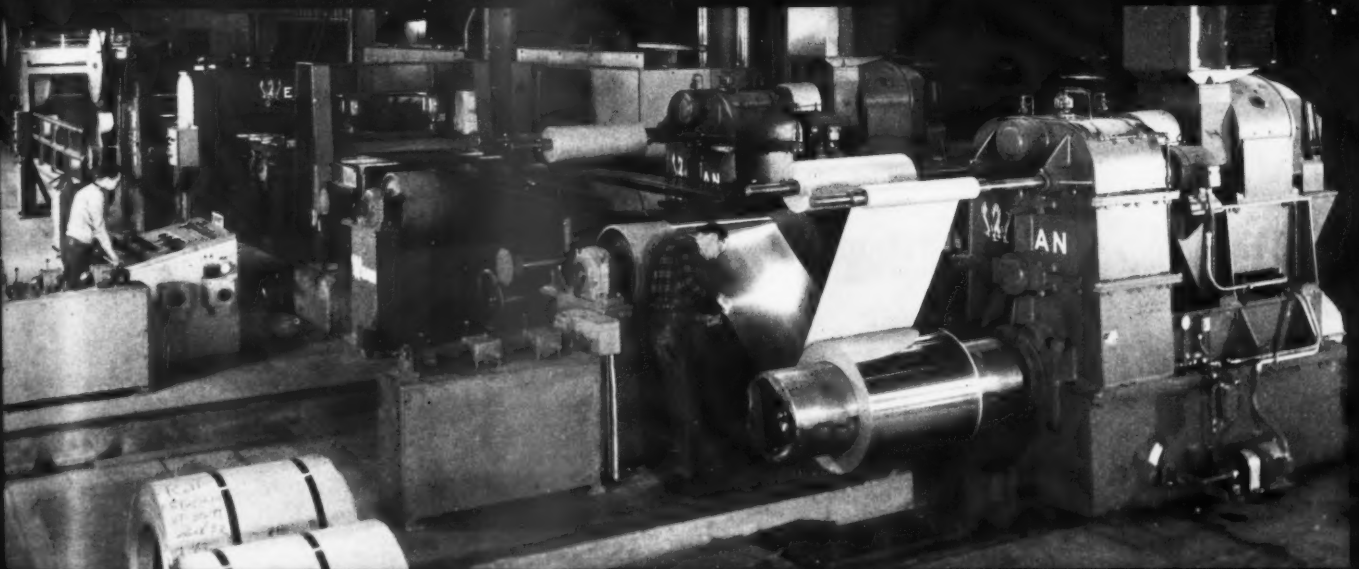




▲ The Sendzimir Mill

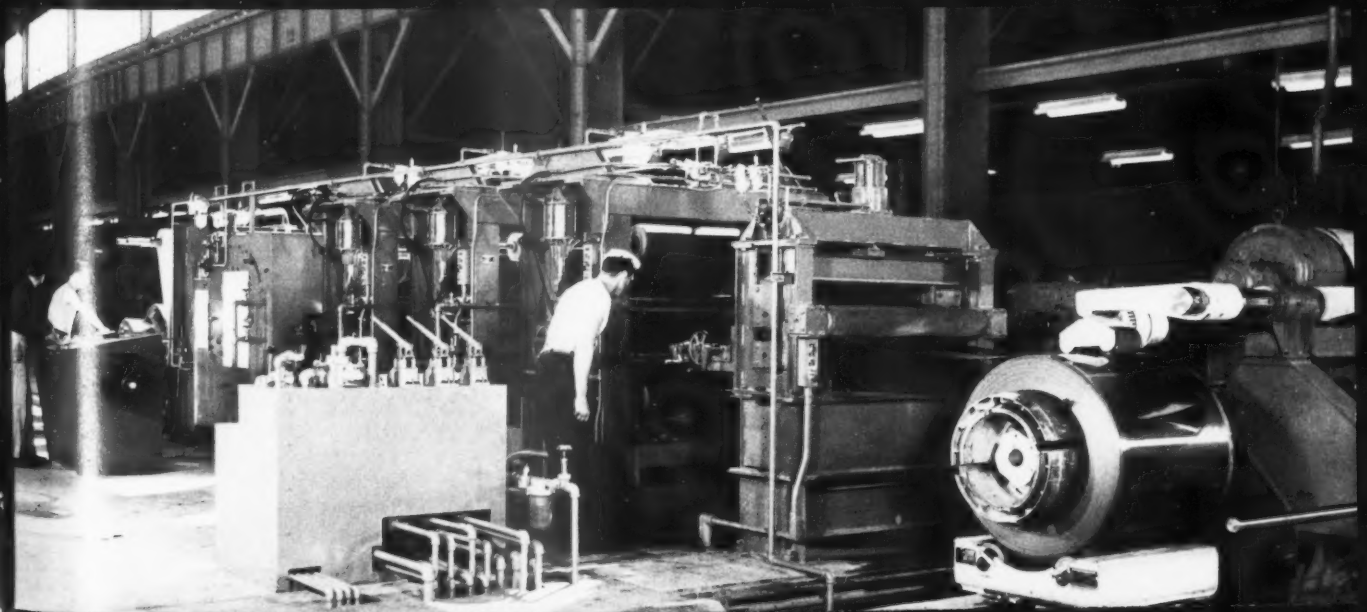


Interior View of the Intricate Mechanism of the Sendzimir Mill ▶



Scouring and Scrubbing Line ▼

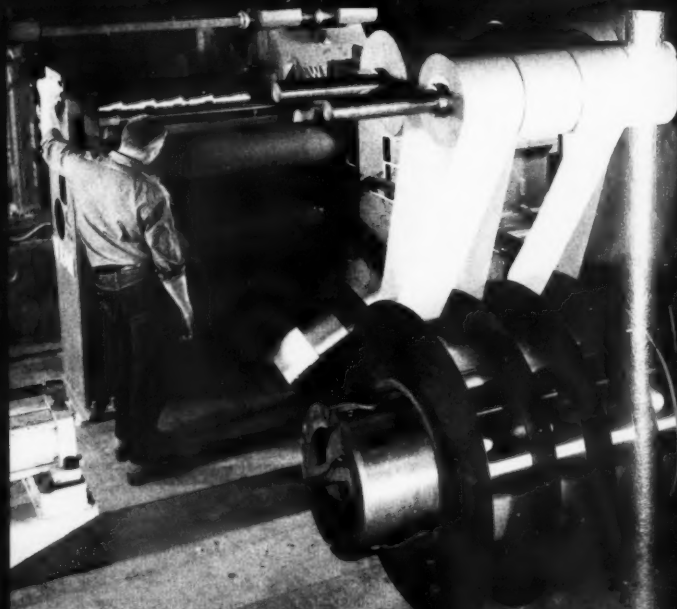
▲ Cold Roll Anneal and Pickle Line—Discharge End





Surface Checking the 50" Slitter ▲

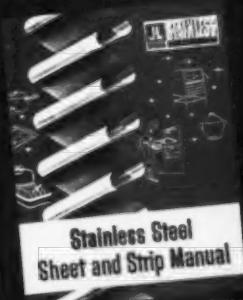
The 50" Slitter. One of Three Slitting Lines for Cutting Coil into Strip



▼ One of the two Shear-to-Length Lines for Cutting Coils into Specified Sheet Lengths



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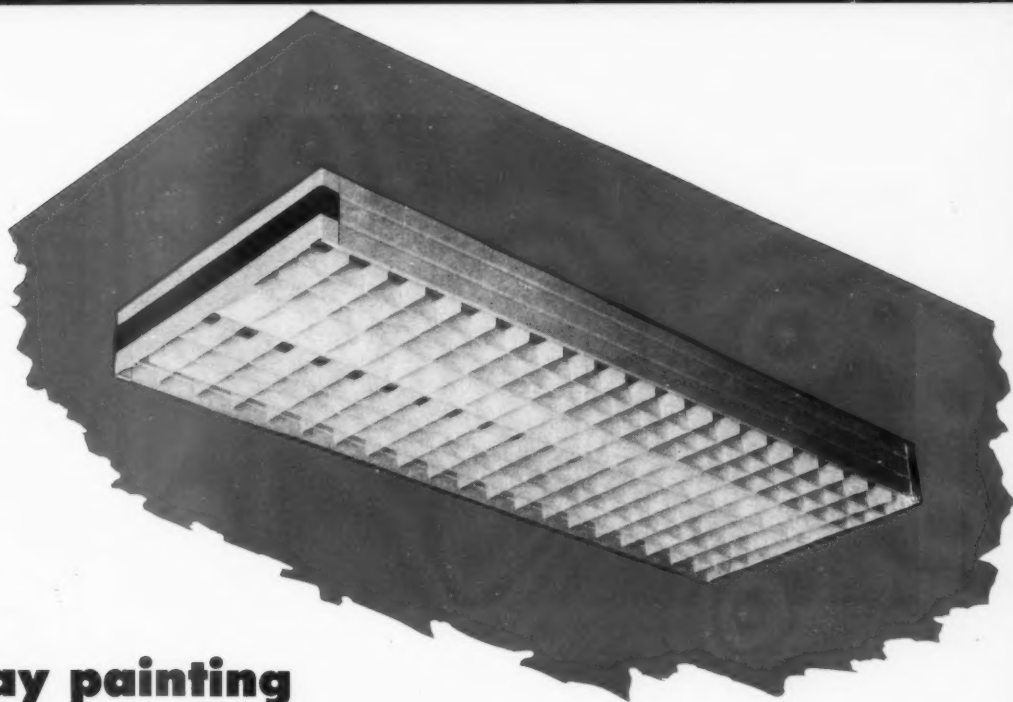
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LITHO IN U.S.A.

a case history report
based on a two-year
production operation



Airless spray painting fluorescent lighting fixtures

PHOTOS COURTESY NORDSON CORP.

KNOWN IN COMMERCIAL AND industrial fields as one of the originators of "egg-crate" shielding for fluorescent lighting, the R & W Wiley Co., Buffalo, N. Y., is continually striving to improve its products as well as to maintain quality at reasonable prices. The company designs and manufactures fluorescent light fixtures, flood and spot lighting equipment (both incandescent

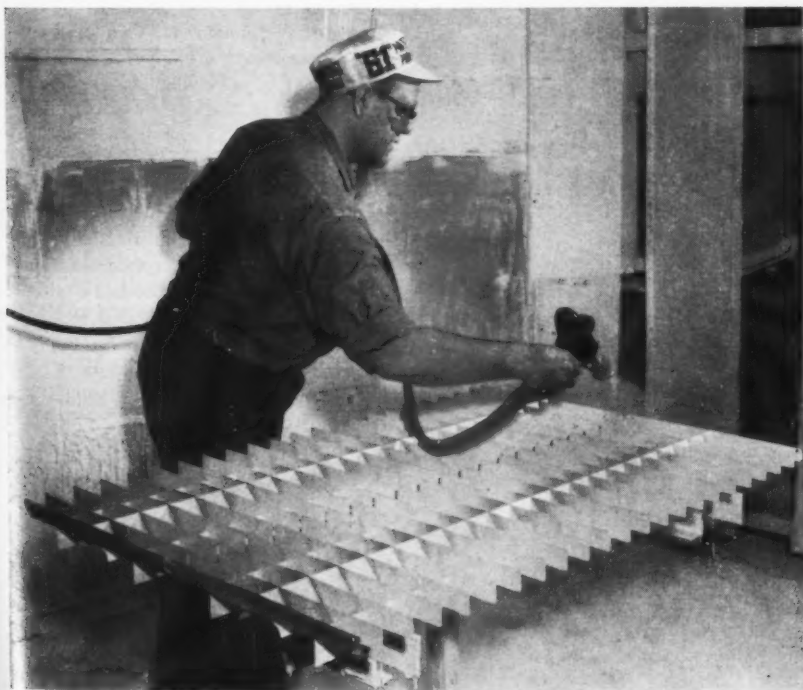
and fluorescent) and fabricates all metal components complete, including wiring of all fixtures.

Late in 1956, Ernest F. Karbe, vice president, began to investigate methods of finishing lighting fixtures in an effort to reduce the loss of finishing materials due to overspray when using conventional spray methods. Having seen advertisements regarding airless spray

painting, and the claims of minimizing overspray, Karbe contacted the equipment suppliers and arranged for tests. Laboratory tests were conducted with the white alkyd baking enamel used for finishing fixtures. After a slight solvent adjustment resulting from the laboratory tests, a demonstration of the airless process was conducted on the Wiley production line, and a decision was reached to install production equipment.

As the majority of MPM readers know, airless spray painting is accomplished by applying hydraulic pressures to heated finishing materials, utilizes no air at the spray gun for atomizing and delivering the finishing or coating material to the surface of the work. Although hydraulic systems can be used in applying some materials without utilizing heat, it becomes necessary to reduce the material considerably with solvent. Under these circumstances, application costs are likely to be considerably more expensive for: (1) Solvent usage is higher, (2) More coats are required with the thinner material, (3) the number of types of finishing materials applicable without heat are limited, and (4) overspray is more prevalent.

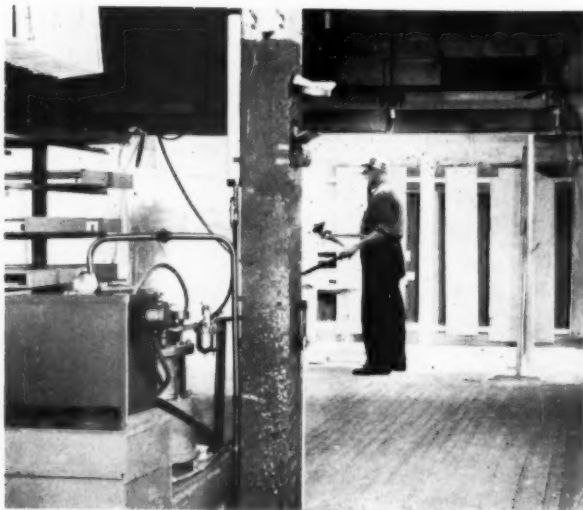
The airless spray unit in operation at R & W Wiley includes an air-driven



Almost invisible spray results from the use of the airless spray system. Intricate angles of egg crate construction are easily finished.



At right in photo is cleaning station for fabricated fixtures. After cleaning, parts travel through gas-fired oven for drying prior to painting. Painted fixtures are transferred to conveyor at left which feeds infra-red oven. Painted fixtures are loaded on conveyor (center background). Travel is clockwise to entrance of infra-red oven (left foreground).



Operators work in open-type spray booths without using respirators. The airless spray system (left foreground) serves two spray booths, one of which is visible in this photograph.



variable delivery constant pressure pump with construction features such as dual pistons with overlapping pressure strokes, solvent chamber for automatically cleaning and lubricating pistons, chrome plated paint plungers, adjustable circulating valve with carbide stem and seat, and heat-resistant packings.

Continuous paint circulation

The circulation feature of this system provides constant circulation of paint from the pump through the heating unit to the spray gun and back to the pump. Pigments contained within the paint are thus prevented from settling within the system. Constant temperature control at the spray gun is also maintained.

Prior to production of a new lighting fixture, the company enlists the aid of lighting experts as well as interior decorators throughout the United States to inspect and approve the new fixture for its intended use. Zinc coated phosphatized steel is used in the fabrication of all component pieces which make up fixtures. After spot welding, assembly, and processing through the cleaning operations, the components are transferred to the painting department. Since they use zinc coated and phosphatized steel, a prime coat is not considered necessary.

A light mist of white alkyd baking enamel is first applied, followed immediately by a full wet coat of the same material. Karbe indicates that "since airless spray painting lends itself ideally in applying heavier film thickness of the finishing material, compared with previous conventional methods, a single-stage operation is practicable and adequate." Operators are able to apply a 1½ to 2-mil film in one operation.

After painting, the components are placed in a chain conveyor and passed through an infra-red oven for a period of six minutes at temperatures of 275°.

to Page 68 →

On this final test line, fixtures are given a 100-per cent operating test before transfer to packaging. Ernest F. Karbe, vice president, observes final inspection.

MPM Suggestion Box

IN THE LAST EIGHT YEARS the key to expanding use of plastic tooling has been provided by epoxy resin compounds. Continued growth of these tooling materials could gain rapidly as users and prospective users gain greater understanding of the nature, properties and potentialities of epoxies.

Some of the characteristics of epoxy resin compounds are said to be the following:

1. They are dimensionally and chemically stable.
2. They are not affected by moisture or temperature change.
3. They are resistant to acid, alkali, grease, and common organic solvent action.
4. They are non-toxic and non-corrosive.
5. They set at room temperature, and require no ovens.
6. They provide easy repair or modification of valuable tools.

In those areas where heat, impact,

Plastic tools simple to make

sequence photos outline surface casting method

of making epoxy plastic tools for draw dies

and abrasion resistance are not highly critical factors, epoxy resin is making headway because it reportedly is cutting tooling time and costs as much as 50 per cent.

Surface casting method for draw dies

For drop hammer dies, both hard and resilient materials are available. For draw dies, a plastic which will allow good metal flow is available. Forming dies and bulging dies require a wear-resistant surface, and a plastic for this purpose can be had.

The surface casting method is said to be widely accepted in the foundry pattern making trade. The savings gained from using the surface casting technique are found in the finishing and hand barbing operations usually associated with metal patterns. Plastic patterns are useful for duplicating since they are cast to the exact size and finish of the mold from which they are made.

Three different methods have proved successful in doing surface casting work.

The following is a brief description of these methods:

1. Pour Method — the core is suspended over the die model, and sealed around the edges. Liquid plastic mixed to prescribed specifications is poured through spouts or at an open end. The core is usually elevated at one end to prevent air entrapment.
2. Squash Method — liquid or paste plastic is placed on the die model. The core is then placed on the material and allowed to settle to a predetermined position.
3. Pressure Pot Method — the core is suspended over the die model and sealed around the edges. The liquid plastic is forced into place at the low point and allowed to vent at high points. A hose from the pressure pot is connected to a convenient inlet hole at the low point of the mold.

For further information contact Special Projects Editor, MPM, York St. at Park Ave., Elmhurst, Illinois.



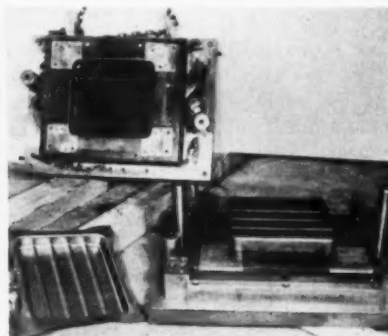
Step one in surface casting: mixing the plastic ingredients. Step two (below) preparing the mold with thin coating of wax to allow the casting to be released.



Assembling the mold. Masking tape is used to seal the sides. Note assembled mold in the right foreground. Pouring mixed plastic liquid (below) into mold.



The finished casting (above). This would not be used in stamping because of its shape. It was used for demonstration. Die (below) for a refrigerator drip pan.





Producing and marketing architectural porcelain

In addition to being architecturally attractive, porcelain enamel curtain wall is frequently used in installations requiring ease of maintenance. Page Elementary School, Minneapolis, combines panels and aluminum windows to create exterior walls which will require virtually no maintenance of any kind.



Long known as a major producer of appliances, the Caloric Appliance Corporation has opened up a whole new area of potential growth and diversification for itself

through added emphasis on supplying the rapidly expanding market for architectural porcelain. While Caloric is certainly no newcomer to the panel business — having been active in the field as early as 1930 — it was not until 1957 that a concerted effort was made to develop this product area.

The first step toward diversification was the establishment of a separate organizational unit, known as the Architectural Porcelain Division, which began operation in April, 1957.

Marketing organization

To fully service the marketing of the architectural products, a separate sales organization and advertising program

were developed. In addition, distributor arrangements were set up to make original contacts and to act as a liaison between the Caloric sales organization and contractors. For the most efficient service to the building industry, these distributors are capable of quoting and engineering jobs from their own offices, as well as making final delivery of the finished products and installing them. In this way, Caloric takes over from the point of finished engineering drawings which have been approved by the contractor. Color samples are submitted when and where required, and are approved by the contractor prior to fabrication of the job. After approval, Caloric fabricates the panels, porcelain enamels them, and either assembles or laminates them with insulating material, depending on the specifications of the architect or contractor.

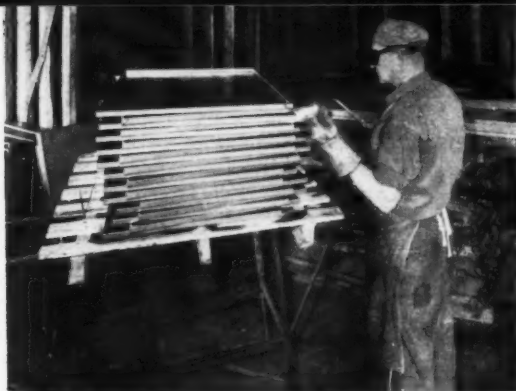
Panels of two basic types

Caloric's own panel designs, trade-named Calcore, are promoted through

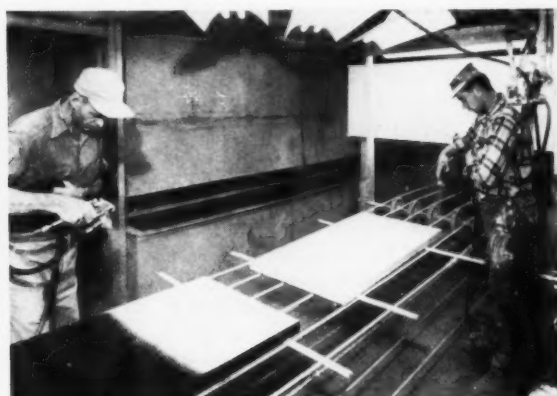
the sales department. These standard panels, manufactured either as an assembled or laminated product, are available in whatever dimensions are practical or necessary to meet the design requirements of the particular building for which they are intended.

Panels of the assembled type are made up of an outside face of 16-gauge steel, which is enameled to the customer's specifications; glass fiber or equivalent insulation; and a backer, usually an 18 or 20-gauge galvanized or electro-zinc-plated steel panel. Painted backers from the company's paint department are often used.

The other basic type, the laminated panel, is similar to the assembled type except for the fact that adhesives are used. Such insulating cores as glass foam, aluminum, or paper honeycomb (sometimes filled with vermiculite insulation), asbestos cement board, and occasionally wood fiberboard are used in laminated panels.



(Upper left) — For small quantity jobs, individual fabrication is used. Ten-foot press brakes equipped with notch and pierce tools are one step in this procedure. (Upper right) — When panels have been notched, pierced, and brake formed, they are forwarded to the acetylene welders, who weld the corners on the facia panel prior to preparation of the metal for enameling. Staggered piling of panels speeds the welding operation. (Lower left) — Following welding of the facia panels, they are routed to the grinders, who finish them on standard grinding wheel equipment. (Lower center) — The panels, after being sprayed with ground coat, pass through an infra-red drying oven. (Lower right) — Cover coat is hand sprayed. Panels move past sprayers on a continuous conveyor.



how Caloric Appliance Corporation gears manufacturing and distribution of Calcore panels to the growing market for porcelain enameled curtain walls

Production organization

On the manufacturing side, the required know-how was readily available, and it was only necessary to assign a special group within production management to concentrate their efforts on architectural panels and curtain walls.

The first step in the actual production process is the delivery of steel to a closed storage area located at one end of a long bay. About two-thirds of the bay is occupied by the fabricating department, and steel is carried, as needed, directly to the fabricating machines by overhead crane.

Either of two fabricating procedures is used, depending on the quantities of the particular job. For small quantities in varied dimensions, it is not economical to prepare special tooling. Instead, jobs of this type are individually fabricated using standard methods. Metal is sheared to size and then processed with the following equipment: Ten-foot press brakes for

flanging, notch and pierce tools for the press brakes, notch and pierce presses, and acetylene welding equipment.

Production procedure

Normally, the procedure in production is to issue the drawings of the panels to the production control department. These panel drawings are reduced from finished assemblies to piece drawings or sketches, specifying hole placement dimensions in the flat, as well as location and size of the corner notches. As the panel production is scheduled through the various phases of fabrication, these sketches go out with the shop orders to the shear operators who shear the panels within 1/32 inch. This tolerance in shearing is very important, since back gauges are used in both the notch and pierce operations and the brake forming operations.

When the sheets have been sheared, a sample of each size panel, in sheet

form, is taken to the layout department for marking on the flat sheet from the drawing. Each sample sheet is then notched and pierced as prescribed and is used as a templet for the remaining pieces of the same dimensions.

The second fabricating procedure, for large quantity jobs, is similar to the first, but utilizes dies, produced in the company's modern tool and die shop wherever practical. Occasionally, designs are required on the panels, and dies can be used to advantage for this type of production, also.

The panels are notched and pierced, then brake-formed and forwarded to the acetylene welders, who finish off the corners on the facia panel prior to preparation of the metal for enameling. Meanwhile, electro-zinc backers have been fabricated along with the facia panels and are forwarded to the organic finishing department, where they are phosphatized, sprayed with prime coats, and sent to assembly. →



(Left) — As panels leave the continuous furnace, they pass a quality control station where an inspector visually checks each piece. (Right) — Panels sprayed with adhesive, together with the core material, are wheeled under infra-red lamps which heat them to a temperature of 185° F., permitting solvents to escape prior to bonding.

The backers, if they are to be used for assembled panels, are finished as they come off the line from the press brakes. If they are to be used in the laminating to a core, they are pre-cleaned with a solvent to remove any oil or dirt and assure good adherence of the adhesive to the panels.

Facia panels are processed through a standard pickling procedure. Steel and acid resisting brick-lined tanks are used in the still-tank installation. Handling is facilitated by an overhead conveying system.

Color matching and thickness control

The cleaned facia panels, while being sprayed in ground coat, are numbered with a job code number on the rear of the panel. After the ground coat is fired, the pieces are held for cover coat application. Thickness of application is carefully controlled so that color is maintained as desired.

All of the sample pieces that have been approved by the customer are matched precisely in the porcelain enamel department. The original samples, made from a small mill, must be rematched with the color from the production mill. The sample parts are sent through the same production furnace which will be used for the particular job, to assure that accuracy will be maintained.

When the color has satisfactorily passed the quality control standards, the panels are put through the cover coat spray booths and fired.

Close inspection is maintained at various points in the firing procedure. Standard overhead conveyor hook systems carry the pieces through an electric continuous firing furnace where temperatures are approximately 1,500°F. To eliminate warpage, a coat of enamel is sprayed on the back of the panels for each coat on the face.

A complete record and history of every job is kept in a permanent library so that, if there is field damage during erection or at any later time, the panels can be replaced with the use of the code number and the job number.

Laminated in platen press

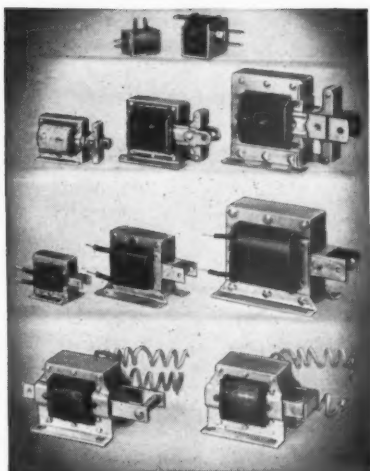
Up to the point of actual final assembly, processing of the laminated type of panel is similar to that used for the assembled type. For the laminated panels, sprayed-on adhesive is applied to the core material and to the back of the exterior panels. The panels are sprayed, then exposed to a bank of infra-red lamps, which heat the adhesive and the panels to 185°F. temperature, permitting the solvents to escape prior to the bonding of the pieces. The pieces are then removed from the heat and placed in jigs and accurately assembled for both outside dimensions and thickness. The assembled panels are put in an

to Page 68 →

(Left) — An air-operated laminating press, which exerts a force of 50 psi, bonds the metal parts to the internal insulating core. The two sections of the press can be operated separately to handle small pieces, or simultaneously to bond large panels. (Right) — Jobs requiring only small quantities are completed in a special assembly area. Assembler at right rear inserts gasket around the inside edge of the panel, while the man at his right places small U-shaped clips to hold core material in place. Workers in foreground complete assembly.



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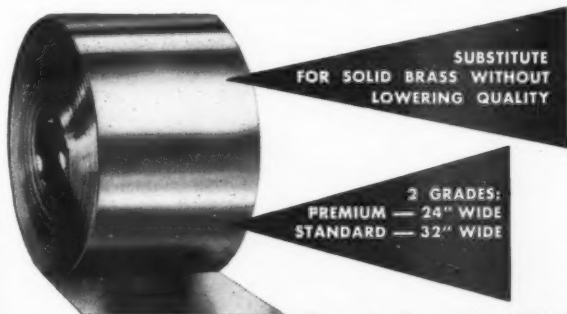
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THE **MPM** **spotlight**



The new Westinghouse refrigerator for 1959 features a 10-pound meat keeper in which unfrozen meats can reportedly be stored safely for seven days. Other features are: silent compressor and motor, concealed door hinges, 28 possible color combinations, glide out shelves, magnetic doors, and lighted temperature control.

Today all other PAINT HEATERS became obsolete...

This new paint heater by Binks has features found in no other production-rated heater. It is U/L approved, of course. And, it has been tested and tortured for over a year under actual product finishing conditions in plants like yours.

① ALL NEW CENTER HEAT

— Saves you 50% to 75% on operating cost. A 1500 watt element in the new Binks paint heater does the work of 3000 and 6000 watt units found in other heaters. There are two reasons why. First, the heat is in the center. It has to heat paint. Second, the new paint tract has an enormous heat contact area. Low heat does the work of high heat . . . actually eliminates a primary cause of bake-out.

② ALL NEW 27 FOOT LONG PAINT TRACT

— Multi-finned tract design packs over 3½ sq ft of uniformly heated surface into a 15" height and 3½"

diameter. You attain highest viscosity control at delivery rates up to 30 oz per minute. Temperature is thermostatically controlled at 150°F. The entire paint tract removes for easy maintenance.

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Available for 115v or 220v operation, with or without paint circulating pumps.

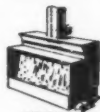
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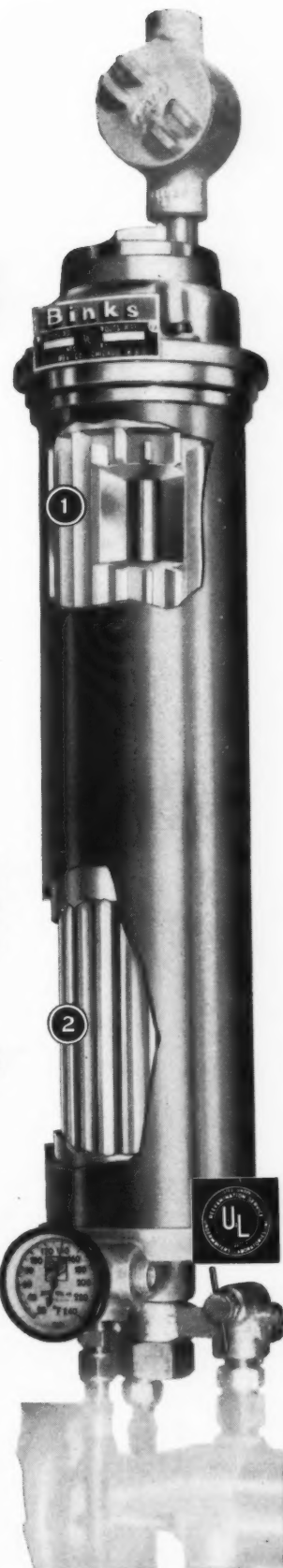


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FOR LOWER FIRING ENAMELS



A portion of the Chicago Vit clay refining plant where uniform "Hydro-Cleaned" clay is produced.



For Finest Frit—Chicago Vit

S CLAY,

Hydro-Cleaned

S clay is a hydro-cleaned clay with high set characteristics and good set stability. It is recommended for use in cover coats where its set properties will allow a reduction in clay content to effect improved acid resistance.

Here, now, are 2 new clays especially developed by Chicago Vit for use in today's lower firing enamels. The study and development of clay blending and clay performance, carried on over the years, is one more unheralded service of the Chicago Vit research and development laboratories. The over-all result is simply this: You can demand and get from Chicago Vit a clay that has been blended to impart particular characteristics that assure you of better enameling results and higher quality in your finished products.



Z CLAY,

Air-Floatated

Z clay is an air-floated clay with medium high characteristics and good suspending properties. It was selected for use in low temperature ground coat enamels because it provides good workability and early maturity. It is generally used in combination with X clay to develop optimum bubble structure. It has good set stability.

You will find it advisable to discuss clays with your Chicago Vit representative. He will be pleased to recommend those most suited to your needs.

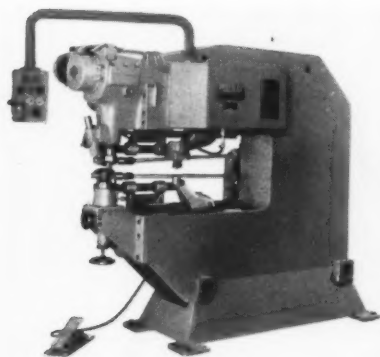
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NEW

SUPPLIES & EQUIPMENT



Universal Shearing and Forming Machine

A heavy duty universal shearing and forming machine, known as the Model U-10, has been recently introduced which, it is claimed by the manufacturer, is the largest in the line, and has an edge cutting capacity of 13/32" mild steel. The unit also features a heavy duty, pneumatic circle cutting attachment and quick locking straight cutting attachment.

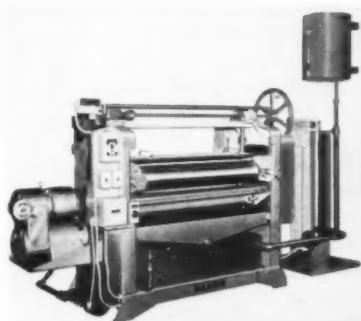
Of box frame construction, the entire mechanism operates in an oil bath. Standard tools that are characteristic of other machines in the line are retained in the U-10, such as: beading, joggling, dishing, louvering, slot cutting, nibbling, etc.

For further information, contact MPM, York St. at Park Ave., Elmhurst, Ill.

Drawing Compound Applicator

A complete line of heavy duty precision roller coaters for the application of paints, lacquers, finishes, sealers, varnishes, protective coatings, drawing compounds, etc., on a variety of materials, is available. The equipment, known as the No. 22-D Roller Coaters, is used to coat both sides of the stock simultaneously, or as a single top or single bottom coater. The units are available in 21 standard sizes from eight inches to 122" roll lengths in six-inch increments.

For further information, contact Dept. MPM, The Black Brothers Co., Inc., Mendota, Ill.



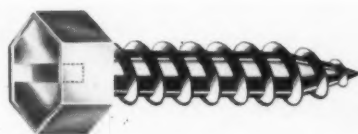
Domestic Heating Valve

A new gas valve designed to be used with all types of domestic heating, and said to combine the best features of both solenoid and diaphragm valves, has been announced. It needs no bleed tubing, and it is noiseless in operation.

To insure silence, the entire operating mechanism is contained in a sealed compartment filled with a heavy duty silicone oil. The oil maintains a constant viscosity, no matter how much usage or how high the surrounding temperatures, suppressing all internal noise and keeping operation silent at all times.

A variety of types are available. They can be obtained with or without non-cycling or automatic recycling manual operator. Units are also available with plug-in pilot feature. Capacities conform to NEMA standards for sizes 3/8-inch, 1/2-inch junior, 1/2-inch small and large, 3/4-inch small and large, and 1-inch pipe.

For further information, contact Dept. MPM, White-Rodgers Co., 1209 Cass Ave., St. Louis 6, Mo.



Burr-Free Screw

A 100-per cent burr-free screw for use in the assembly of home appliances has been developed. Called the "Uni-Slot" screw, it is a slotted screw with an indented hex head, the slot being confined within the recess of the head. Previously, the slot was cut across the full width of the head, leaving a rough burr to cut fingers and make assembly difficult.

Some of the advantages claimed for the new screw by the manufacturer are: longer life for screw drivers; positive seating; faster production; no discards; and elimination of the accident hazard.

For further information, contact Dept. MPM, Universal Screw Co., 2401 Brummel Place, Evanston, Ill.

Remote-Mounted Circuit Breaking Unit

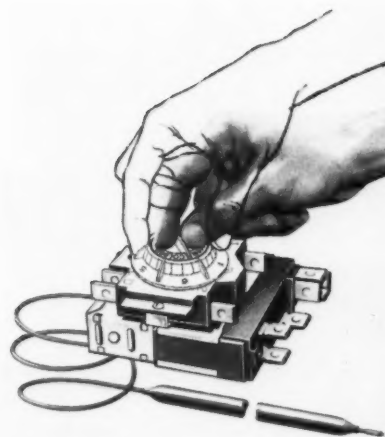
A new, low-cost manual-reset, remote-mounted circuit breaking unit provides overload protection for fractional horsepower motors.

Adaptable to motors on washing machines, dryers, dishwashers, disposal units, electric lawn mowers, and workshop and other appliances, the unit, described as the MP-1600, provides motor protection in ratings from 5 to 20 amps.

Overloads and burnouts due to "locked" motors are prevented by the MP-1600. A snap-action thermal element trips when the current exceeds a predetermined limit.

An insulating barrier moves between the contacts to shut off the motor, and a visible plunger snaps out. The motor cannot resume operation until the plunger is reset. Quick, single-hole mounting and speed terminals are used for installation.

For additional information, contact Dept. MPM, Mechanical Products, Inc., Jackson, Mich.



Dial-Within-A-Dial Circuit Selector Switch

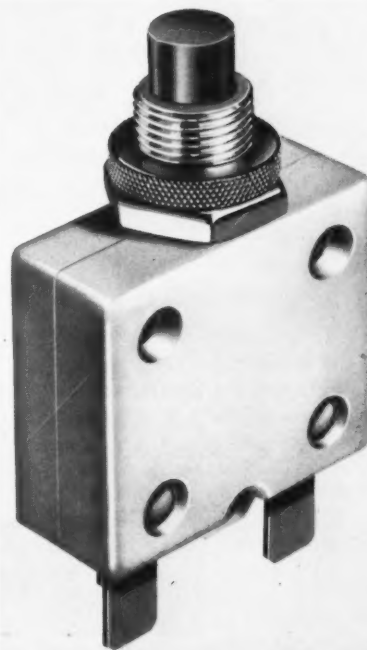
Two new series of cycling thermostat controls designed to offer shallow depth mounting and side access to terminals have been introduced. The controls, designated C21 and C22, are designed to operate window or unit air conditioners, compressors, strip heaters, and reverse-cycle heat pumps under cross ambient conditions, and in a wide range of applications.

For further information, contact Dept. MPM, Ranco Inc., Columbus 1, Ohio.

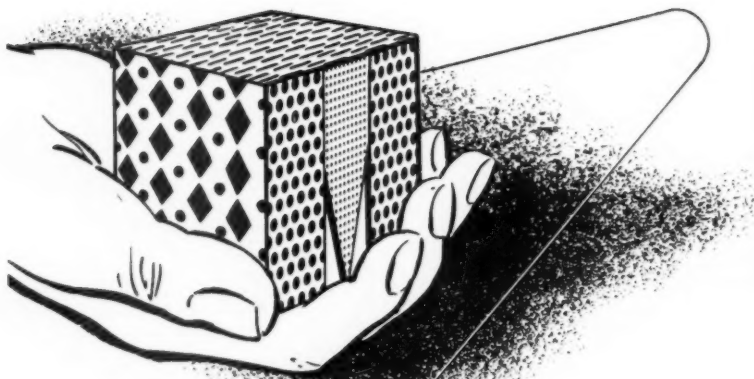
Porcelain Enamel Stripper

Porcelain enameled production rejects are now being reclaimed quickly and economically, it is claimed, through use of a chemical process known as deNAMEL. Single or multiple coats of porcelain are said to be completely removed in five to 15 minutes immersion. The manufacturer states that no trace of porcelain remains on the ware, including corners, crevices, or points of heavy build-up. There is no attack on the base metal.

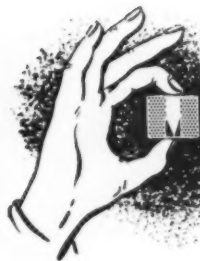
For further information, contact Dept. MPM, Kolene Corp., 12890 Westwood Ave., Detroit 23, Mich.



to next Page →



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Pre-Plated Steel

A low-cost utility grade of pre-plated steel has been announced. Called C-grade steel base, the new design material is available in pre-plated finishes of chrome, nickel and copper on a steel base.

C-grade requires no cleaning, plating or polishing, according to the manufacturer, and is readily adaptable to standard production techniques such as stamping, blanking, bending, welding, seaming, etc., without damage to the pre-plated finish. C-grade steel base is also available with Mar-Not, a protective coating that may be peeled or stripped off after fabrication.

The product is available in sheets 24" x 96" and up to 160"; in coils 1/8" to 24" wide; in flat strips 1/4" or wider, up to 96" long, and in gauges .008" to .036"; temper No. 4. For further information, contact Dept. MPM, American Nickeloid Co., Peru, Ill.

Thermosetting Acrylic Finish

New in appliance finishes is "Vitrilan," a thermosetting acrylic finish. Based on a cross-linking acrylic polymer, Vitrilan brings to the appliance industry a new set of standards in finish performance, it is claimed.

Of particular interest to the manufacturer of home laundry equipment is its exceptional resistance to soaps and detergents. Subjected to 1 1/2 per cent Syndet solutions at 165°F., the finish is said to out-perform conventional finishes by a considerable margin. A few blisters may appear, but there is no loss in film hardness, and there is a minimum loss in gloss.

For the manufacturer of cooking and heating appliances, Vitrilan exhibits excellent color retention when subjected to both light and heat. In heat resistance, it is said to be surpassed only by silicone enamels costing two or three times as much.

The finish sprays freely without cobwebbing in standard spray equipment. Baking schedule is 350°F. for 30 minutes or equivalent.

For further information, contact Dept. MPM, Interchemical Corp., Finishes Div., P. O. Box 659, Newark 1, N.J.

Robert W. Titgemeyer has been named branch manager of the Los Angeles territory by The Carpenter Steel Co., Reading, Pa. He started with the firm as sales engineer in 1947, and was appointed assistant branch manager in 1956.

NEW

INDUSTRIAL LITERATURE

Plan Book of Metal Mouldings

Plan Book of Metal Mouldings for all products in all metals from a specialist in stainless steel is available in a well-illustrated booklet. Rings for washers, bezels for television, dinette trim and aprons, refrigerator kick plates and escutcheons are some of the many mouldings that can be made. For the booklet, write Dept. MPM, Pyramid Mouldings, Inc., 5364 W. Armstrong Ave., Chicago 30, Ill.

Tubular Heaters

A bulletin is available which describes a line of tubular heaters especially constructed for electrical heating of oil, air, water, and chemical solutions. The bulletin describes some typical shapes of elements used in the heaters, and also lists various types of heaters which are available. It is stated by the manufacturer that the units are applicable wherever fast heating, space limitations, high efficiency, and low cost are factors in design.

For further information on the bulletin, contact Dept. MPM, The Stillman Co., 429-33 E. 164th St., New York 56, N. Y.

Keeping Costs Down as Temperatures go Up

The above head is the subject of a big, illustrated booklet which shows how burning tools can lower costs in a porcelain enameling furnace. According to recent information from U. S. Porcelain Enamel Co., Los Angeles, drop rods have served for five years in a 1550°F. furnace, and one year in another type furnace. These rods are said to have excellent high temperature strength, and can handle heavy loads at burning heat, without stretching. They are also said to have high temperature corrosion resistance, that enables formation of only a thin, tightly adhering protective film. For the booklet, write Dept. MPM, The International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.

Aesthetic Functionalism With Perforated Metals

The perception of the industrial designer and other men of ideas, and the

selection and adaptation of aesthetically interesting and functionally honest mediums is constantly proving the versatility of perforated metals, according to the manufacturer. For more than 75 years, this company has helped to broaden the horizons of industrial design through the imaginative creation of unlimited patterns in both metallic and non-metallic materials, it is said. Appropriate designs can be selected from thousands of existing dies at no charge for tooling. Write Dept. MPM, The Harrington & King Perforating Co., Inc., 5640 Fillmore St., Chicago 44, Ill.

Two Temperature Sensor Bulletins

Separate bulletins are available on two basic types of temperature sensor devices. One is on a bellows type assembly that is said to provide accurate control with no drift for cold or heat sensing applications such as oven and refrigerator controls. Simple in design and lightweight, they are replaceable with costlier sensing devices, according to the manufacturer. So-called Diastat assemblies eliminate the need for ambient temperature compensating devices in many applications, it is said. These stainless steel "packaged" units reputedly offer extreme accuracy with no resetting at temperatures up to 650° F. For the Bellows Bulletin K-105 and the Diastat Bulletin K-607 write Dept. MPM, Bridgeport Thermostat Div., Robertshaw-Fulton Controls Co., Milford, Conn.

Stainless Steel for Washers and Dryers

Better than ever performance and sales appeal are said to be assured by the use of stainless steel for tubs and drums of washers and dryers. Its gleaming, smooth, hard surface provides maximum protection for the finest fabrics, according to the manufacturer. This stainless steel is also said to be unaffected by dyes, soaps or detergents. For more information on Enduro stainless steel, write Dept. MG-6254-B, Republic Steel Corp., 1441 Republic Bldg., Cleveland 1, Ohio.

Bulletin on New Thermosetting Acrylic Finish

A new thermosetting acrylic finish is completely described in a newly available bulletin. The new finish is said to improve all-around protection and give lustrous beauty to appliances and other fabricated metal products. Vitri-lan, as the new finish is known, reportedly combines the color retention, the chemical and abrasion resistance of the acrylics with the hardness and toughness of a baking enamel. Write Dept. MPM, Finishes Div., Interchemical Corp., 224 McWhorter St., Newark 5, N. J.

Zinc-Coated Surface Defies Corrosion

According to a manufacturer using zinc-coated steel, the surface defies corrosion and takes paint beautifully. This leading manufacturer of housewares, such as kitchen canister sets and bread boxes, finds that electrolytic zinc-coated steel is a natural for its purposes. A free booklet completely describes how this electrolytically-fused zinc coating is so tight that not even the severest bending, drawing or crimping operation will flake or peel off its surface during fabrication. For the free booklet entitled "Weirzin", write Dept. R-19, Weirton Steel Co., Weirton, W. Va.

Shipping Containers for Every Use

Large or small containers for every purpose are completely described in a free illustrated catalog. Wire bound pallet boxes, hinged corner pallet boxes, cleated boxes, various types of crates and corrugated boxes are fully described. All of these containers can be easily and quickly assembled and allow high stacking, according to the brochure. For the catalog write Dept. MPM, Chicago Mill and Lumber Co., 33 South Clark St., Chicago 3, Ill.

Informative Booklet on Galvanized Sheet

Non-flaking galvanized sheet is one of the claims made in a booklet which describes steel that is available in coils or cut lengths up to 60" in width, and gauges 8 to 30 inclusive. This zinc-coating is said to resist flaking under the toughest conditions. The coating stretches with the base metal during fabrication, according to the manufacturer. For a free booklet describing this sheet, write Dept. MPM, Inland Steel Co., 30 W. Monroe St., Chicago 3, Ill.

(More New Literature on Page 63 →)



a winning combination
for Enamellers

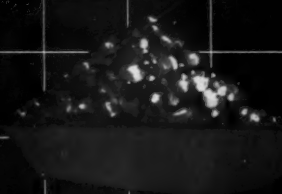
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NEWS



Waste King Negotiates for Control of Cribben and Sexton

Waste King Corp., Los Angeles, has announced that it is seeking to acquire operating control of Cribben and Sexton Co., Chicago, by purchasing a majority of its common stock. The Los Angeles firm anticipates sales of \$35,000,000 in the coming fiscal year for its own and Cribben and Sexton's product lines.

Negotiations were made public by Bertram Given, Waste King president, and Wendell C. Davis, president of Cribben and Sexton, when Waste King petitioned the California Division of Corporations for permission to make an offer to buy common stock from stockholders of the Chicago firm. According to the petition, Waste King will offer one share of its common stock, plus \$12.50, for each two shares of Cribben and Sexton common. There are 188,150 shares of Cribben and Sexton common stock currently outstanding. Waste King will have no obligation to consummate the exchange if fewer than 165,000 shares are tendered, and will accept up to 182,000 shares, the petition says.

Avco Forms New Division

Avco Mfg. Corp. has announced the formation of a new division at Nashville, Tenn., effective January 1, 1959. Facilities of the new Nashville Div. formerly were part of Avco's Crosley Div.

"It was felt that the corporation's plans for expansion in both defense and commercial areas could be achieved more effectively through the establishment of a new division at its Nashville plant," Kendrick R. Wilson, Avco president, said in making the announcement.

John Mihalic, vice president of the Crosley Div., has been elected a vice president of Avco and president of the new Nashville Div. The new division is engaged in engineering and production of aircraft structures and assemblies, Avcomb stainless steel honeycomb panels, components for radar systems, and home appliances.

NHMA Show Expected to Attract Record Buyer Attendance

More than 11,000 of the nation's housewares buyers are expected to launch a booming housewares year at the National Housewares Manufacturers Association's 30th National Housewares Exhibit, Monday through Friday, January 12-16, 1959, at Chicago's Navy Pier and adjacent Drill Hall.

A record 739 exhibitors will offer buyers a world of housewares, and the January show will be the first Chicago NHMA exhibit to be operated Monday through Friday.

PMI Spring Technical Meeting Scheduled for Chicago

The Pressed Metal Institute, Cleveland, Ohio, will hold its Tenth Anniversary Spring Technical Meeting March 11-13, at the Pick-Congress Hotel, Chicago. The program for the three-day meeting will include: Cost saving die ideas mean \$\$\$ and ¢¢; Work simplification saves \$\$\$ and ¢¢; Problem-solving clinic; Safety in flexomation; Machine flexibility; Accidents aren't accidents; Secondary-operations clinic.

New Name for Columbus, Indiana Firm

Hamilton Mfg. Corp. paid tribute to a trade name January 1, 1959, when the company changed its corporate name to Hamilton Cosco, Inc.

The trade name "Cosco" is derived from the original company name, Columbus Specialty Company, adopted when the firm was formed in 1935.

Company products include card table and chair sets, juvenile seating, and home and office furniture, manufactured in a plant which, by 1960, will have 15 acres under roof.

New Officers Elected by NEMA Housewares Section

Arnold O. Wolf, Racine, Wis., vice president and general manager, Hamilton Beach Co., Div. of Scovill Mfg. Co., has been elected chairman of the Electric Housewares Section, National Electrical Manufacturers Association, it has been announced by Joseph F. Miller, NEMA managing director.

Wolf succeeds J. P. McIlhenny, New York, N. Y., vice president in charge of sales, Waring Products Corp., a subsidiary of Dynamics Corp. of America. S. C. Rexinger, Elgin, Ill., sales manager, Electric Housewares Dept., Toastmaster Div., McGraw-Edison Co., was elected to succeed Wolf as vice chairman of the Section.

Rheem Moves Eastern Container Production

Rheem Mfg. Co. recently announced plans to transfer steel shipping container production from Sparrows Point, Md., to its container plant at Linden, N. J., to serve East Coast market areas. The Sparrows Point plant will continue to manufacture Rheem home product items, including automatic storage water heaters, which account for most of the plant's jobs and output. The Container Div. operates other plants at Richmond and South Gate, Calif.; Chicago; New Orleans; Houston; and Tacoma, Wash.

Eagle Stove Works Liquidates

Information comes to MPM that Eagle Stove Works, Rome, Ga., long-time manufacturer of coal and wood ranges, is being liquidated.

Detroit Controls President Sees Bright Future

On completion of his first month as president of Detroit Controls, Phillip J. Kreissl, in a report to MPM, voiced confidence in the future of this division of American-Standard in an expanding economy.

"We are completing the task of reorganization and realignment of responsibilities," said Kreissl. "We have promoted a number of our top executives and brought in other people with fresh viewpoints. We have made each move only after we were sure it was the right one and, consequently, we now have what we believe to be an efficient, enthusiastic, and energetic organization dedicated to service and growth."

"We feel our future is closely linked to the growing appliance and automotive industries and the advances in industrial processing. Heating and cooling of residential buildings will also bring greater opportunities, and we expect to take full advantage of all such prospects."

"We are already getting a bigger share of the appliance market, and we aim to increase it and to carry that increase into every other market."

Kreissl, 37, joined the Detroit Div. in 1941 as a trainee in the sales department. He became manager of the East Central Regional office in Cleveland, manager of Controls sales in Chicago, and was named general manager of sales and marketing during 1958. →



Bettinger Purchases Business From Avco

The Bettinger Corp., Milford, Mass., has purchased a prefabricated service station business developed by Avco Mfg. Corp., according to Robert A. Weaver, Jr., president of Bettinger.

The modular-design packaged service station, which includes structural system, porcelain enamel curtain wall side panels, roof, and accessories, was developed for both domestic and international gasoline marketing outlets. More than \$500,000 was invested in development, engineering, testing, and pilot production of the unit prior to its acquisition by Bettinger.

New Shell Organization to Reflect Product Lines

Shell Chemical Corp. President Richard C. McCurdy announced a company reorganization effective January 1, 1959, involving the formation of four additional fully-integrated divisions, bringing the total of these to five.

Three divisions of interest to MPM readers are industrial chemicals, plastics and resins, and synthetic rubber.

The industrial chemicals division will be headed by Alfred W. Fleer, now general manager of manufacturing, technical. The plastics and resins division will be headed by Martin Buck, who is currently assistant to the president. The synthetic rubber division will be headed by John P. Cunningham, now manager of the synthetic rubber sales division.

NAAMM Convention Scheduled for April in New Orleans

The 21st Annual Convention of the National Association of Architectural Metal Manufacturers is scheduled to be held April 12-17, 1959 at the Monteleone Hotel, New Orleans, La.

Calkins-Kerr Establish Agency in California

G. R. (Gib) Calkins, a former vice-president and director of sales for the Controls Co. of America, and Phil G. Kerr, former national sales manager for the Admiral Corp., have established a manufacturer's agency in Los Angeles, to be known as Calkins-Kerr Associates.

According to Kerr, the lines represented will be diversified, with the initial sales efforts being directed to the electronic industry, the housing industry, and the dairy industry.



KERR



CALKINS

"Calkins' many years of experience in merchandising components for the electronics industry, and my past experience in merchandising finished products, will permit us to better service the accounts using the products represented," Kerr stated.

Immediate sales effort will be concentrated in the states of California and Arizona, but expansion plans already completed call for complete coverage in 11 western states.

Seaporcel Announces 18th Foreign Licensee

Seaporcel Metals, Inc., Long Island City, N. Y., a producer of architectural porcelain products, announced recently that it has signed Homann-Werke, West Germany, as its 18th foreign licensee. This company is said to be one of the largest porcelain enamelers in Germany, and operates two plants.

Western Metal Exposition Set for March in Los Angeles

Hundreds of this country's metal firms have arranged to display their products, equipment, and technique at the 11th Western Metal Exposition March 16-20, 1959, in Pan-Pacific Auditorium, Los Angeles, Calif.

Heads of the American Society for Metals recommend that Western metal plants detail their engineers, technicians, department supervisors, and top-bracket officials to attend.

Interest in the West also is focused on the 11th Western Metal Congress, set for the same dates in Los Angeles' Ambassador Hotel.

New Division at Haskelite Manufacturing

Robert B. Evans, president of Haskelite Mfg. Corp., Grand Rapids, Mich., has announced the organization of a new Industrial Division of the company.

Evans said the new division will be responsible for sales of the company's metal and wood laminated materials, insulating panels for commercial refrigeration, die making materials, and building construction materials.

D. Gray Slawson, formerly sales manager of the Building Products Division of the company, has been named sales manager of the Industrial Division.

J&L Opens New Sales Office

Jones & Laughlin Steel Corp. reportedly has opened a Resident sales office December 1, 1958, at 108 Arlen Building, Midland, Texas. R. E. Schrock, sales representative, and Richard L. Tuck, field engineer, are attached to the new office, which is under the direction of D. M. Griffith, J&L's Houston District sales manager.

New Industrial Washer Installed at Controls Co.

A new washer, reportedly the first of its kind, has been installed in the Milwaukee, Wis. plant of Controls Co. of America. Named "Roto-dunker," the unit was designed and manufactured by the Fabricated Metal Products Co., Milwaukee, in accordance with specifications and direction from Controls Co.'s industrial engineering department.

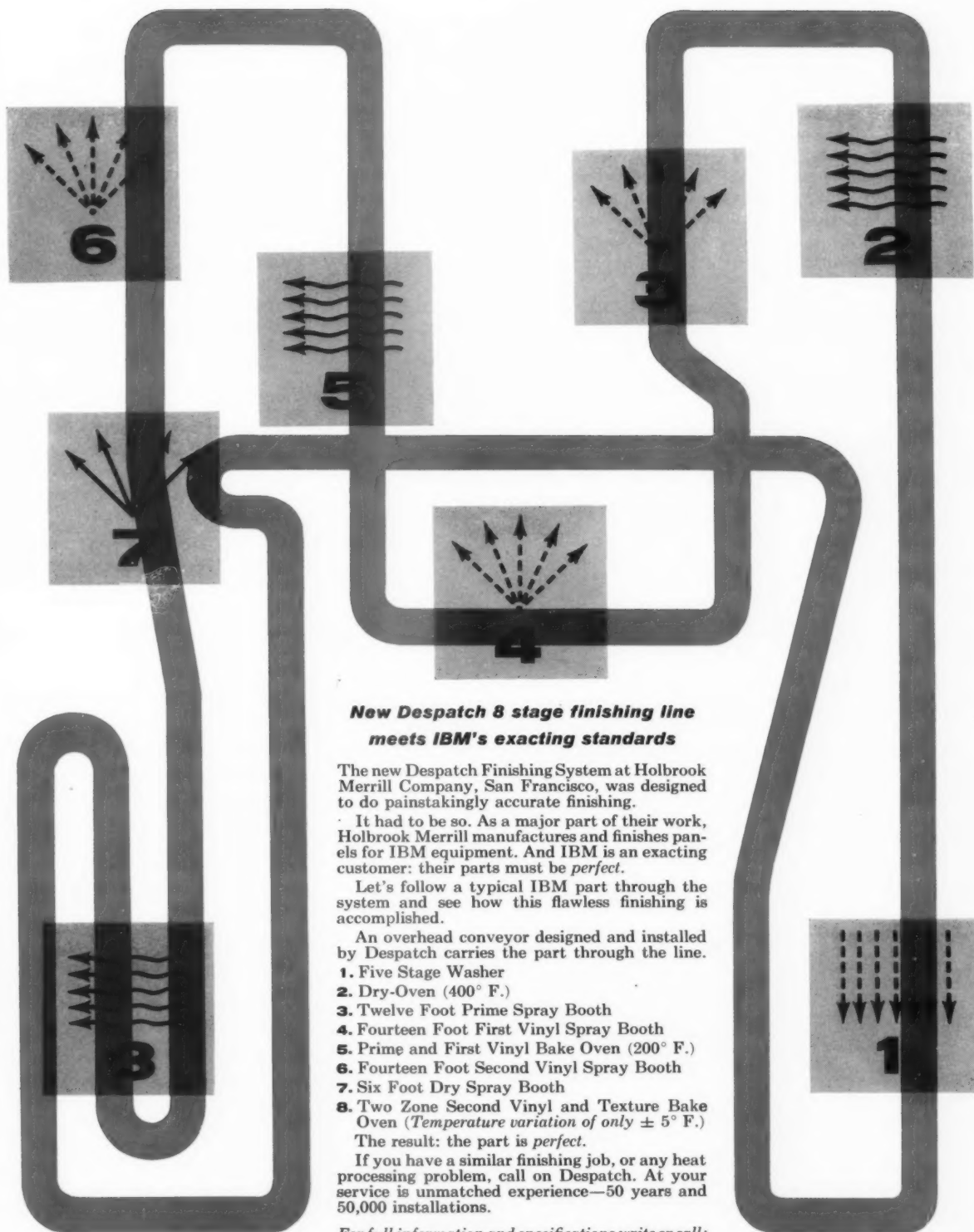
The washer is used to wash metal chips out of holes of various sized die casting used for oil and gas controls, and to clean the finished die casting before it moves to assembly.

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Hogensons Retire from Chicago Vitreous Corp.



November 30 was retirement day for the Hogenson brothers who, along with their father, founded Chicago Vitreous Corp. in 1918. Pictured at their retirement dinner are W. Hogenson (left) and E. Hogenson (second from right), with A. S. Ault, new president of Chicago Vit (between the two Hogensons), and T. Spencer Shore, president of Eagle-Picher Co.,



**New Despatch 8 stage finishing line
meets IBM's exacting standards**

The new Despatch Finishing System at Holbrook Merrill Company, San Francisco, was designed to do painstakingly accurate finishing.

It had to be so. As a major part of their work, Holbrook Merrill manufactures and finishes panels for IBM equipment. And IBM is an exacting customer: their parts must be *perfect*.

Let's follow a typical IBM part through the system and see how this flawless finishing is accomplished.

An overhead conveyor designed and installed by Despatch carries the part through the line.

1. Five Stage Washer
2. Dry-Oven (400° F.)
3. Twelve Foot Prime Spray Booth
4. Fourteen Foot First Vinyl Spray Booth
5. Prime and First Vinyl Bake Oven (200° F.)
6. Fourteen Foot Second Vinyl Spray Booth
7. Six Foot Dry Spray Booth
8. Two Zone Second Vinyl and Texture Bake Oven (Temperature variation of only $\pm 5^\circ$ F.)

The result: the part is *perfect*.

If you have a similar finishing job, or any heat processing problem, call on Despatch. At your service is unmatched experience—50 years and 50,000 installations.

For full information and specifications write or call:

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Newly Elected Officers of NEMA

New officers of the National Electrical Manufacturers Association are: J. R. MacDonald, chairman of the board and president, General Cable Co., reelected NEMA Treasurer; J. L. Singleton, vice president, Allis-Chalmers Mfg. Co., reelected NEMA President. W. R. Persons, president, The Emerson Electric Mfg. Co., newly elected NEMA Vice President; C. J. Witting, vice president, Westinghouse Electric Corp., newly elected NEMA Vice President.

New Ownership for Ferro Powdered Metals

Announcement was made to MPM late in 1958 that the Powdered Metals Division of Ferro Corp. has been acquired by a newly-organized company known as Ferro Powdered Metals, Inc., (an Indiana corporation). The new company is to be operated and managed by the same personnel who have been operating the Ferro Division, with J. F. Helsel, formerly division manager, heading the new company as president.

Jagade and Hayward Form Sales and Engineering Firm

J. & H. Engineering and Sales, Inc. is the name of a firm recently formed by Harry Jagade and Don Hayward. Their office is at 800 Windsor Road, Glenview, Ill.

Jagade was formerly sales manager of Precision Die Casting, Chicago, and Hayward was formerly division sales manager and engineer on roll sections and decorative trims with John Lees Division of the Serrick Corp., Muncie, Ind.

Companies represented by the new firm offer such products and services as roll formed parts (all metals); decorative stampings and extrusions (including finishing facilities); zinc die castings; wire products (shelving, baskets, etc.); and injection molded plastic components.

Caloric Chicago Office to the Merchandise Mart

Caloric Appliance Corporation's Chicago regional sales offices have moved into larger headquarters in Space 11-116-A at the Merchandise Mart, it was announced jointly by Julius Klein, Caloric president, and W. O. Ollman, Mart general manager. The previous offices were located in the American Furniture Mart.

Waste King 6-Month Earnings Up 46 Per Cent

Waste King Corp., Los Angeles, achieved a 46.4 per cent increase in net earnings in the first six months of its fiscal year on a sales increase of just under six per cent, according to Bertram S. Given, president.

Detroit Controls Promotion and Addition

Promotion of F. G. (Tod) Coggin to vice president of the Detroit Controls Division of American Radiator and Standard Sanitary Corp., has been announced by F. J. Kreissl, division president. Coggin has been general manager of sales and marketing.

According to Kreissl, Coggin will handle both line and staff responsibilities in his new post. He will render administrative assistance to the president and execute special assignments.

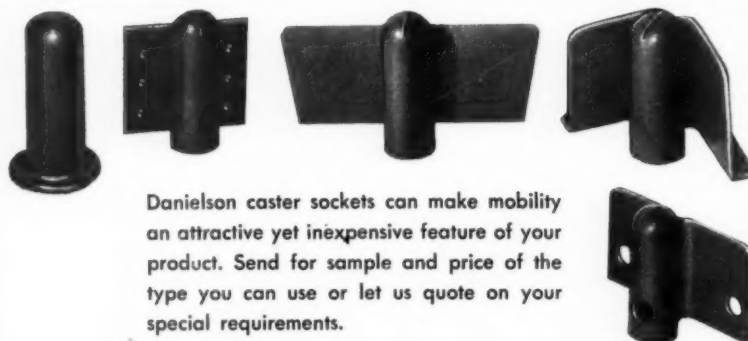
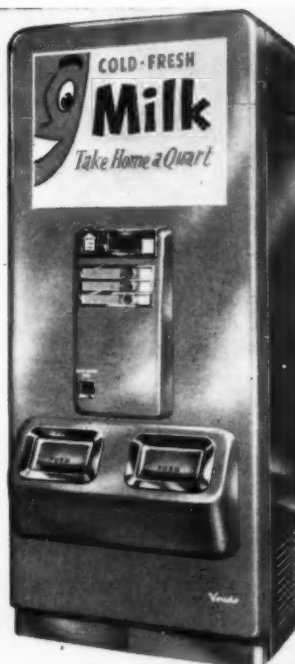
William A. Miller has joined the Detroit Controls Division as manager of marketing administration, according to Kreissl.

For the past two years, Miller has been employed by the Battelle Memorial Institute and assigned to a field team in Beirut, Lebanon.

**What we've done for others
... we'd like to do for YOU!**

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Danielson caster sockets can make mobility an attractive yet inexpensive feature of your product. Send for sample and price of the type you can use or let us quote on your special requirements.

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Presstime News



25-Year Award to Noble

William N. Noble, (right) vice president of Ferro Corporation's Frit and Glaze Division, receives his 25-year service pin from Harry T. Marks, president, another Ferro 25-year man. Noble, a graduate of the University of Illinois, came to Ferro in 1933 after having been associated with Chicago Vitreous Corp. and the A. O. Smith Co.



COMING FEATURES

DESIGN

DISHWASHER FOR THE SPACE
SAVER MARKET

NEW AUTOMATIC COMBINATION WASHER-
DRYER NOW IN MASS PRODUCTION

FABRICATION

NEW SETUPS DO FAST WORK IN FABRI-
CATING WASHER-DRYER COMPONENTS
THE ALUMINUM BASE ALLOYS

FINISHING

A COMPLETE FINISHING LINE
FOR CABINETS

AN OUTSTANDING PEI FORUM PAPER
WITH ILLUSTRATIONS

PLATING WIRE SHELVING

GENERAL

WHAT'S NEW AT THE JANUARY MARKET
FOAMED IN PLACE PLASTIC INSULATION

Airtemp Names Three Branch Managers

Appointments of new factory branch managers for Chrysler Corporation's Airtemp Division have been announced by F. J. Laughna, director—branch operations.

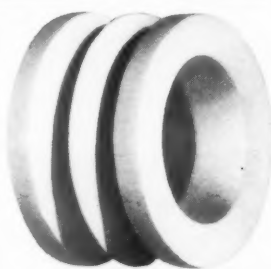
They are: Lawrence H. Baker, New York; Charles M. Barr, New Orleans; and Robert L. Williams, Houston.

NEMA Air Conditioner Section Develops Performance Standard

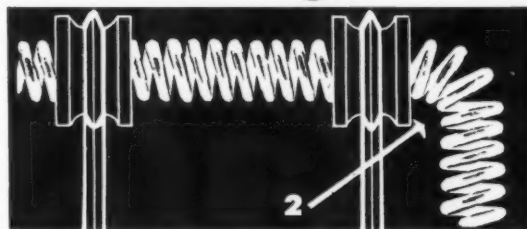
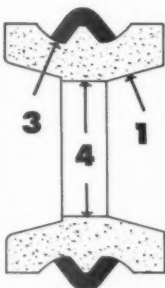
One of the room air conditioning

industry's most significant assignments has been completed successfully by the Room Air Conditioner Section of the National Electrical Manufacturers Association, it was announced by Joseph B. Ogden, Chairman of the Section. Mr. Ogden is also vice president, Airtemp Division, Chrysler Corporation.

The job was to develop a NEMA product standard which would establish uniform procedures for determining the performance of room air conditioners under specified test conditions and which would set certain minimum characteristics for the units.



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- 1** Tapered inside diameter allows maximum air circulation—Minimum heat build up within the insulator.
- 2** Maximum Safety—Greater protective surface fully protects against metal to metal contact even on sharpest bends.
- 3** Positive lock—"V" Saddle-Loop is firmly positioned in grooves and over ridge—cannot shift and cause shorts.
- 4** Element contacts less than 1/3 of insulator length—allows resistance coil more freedom to move during heating and cooling periods.
- 5** Fully Tested—H. W. Tuttle's Breathing Insulators must test less than 0.5 MA. leakage at 1250 Volts /AC after 48 hours in a 95% relative humidity chamber.
- 6** Manufactured by a company that stands back of it.—H. W. Tuttle & Co. has stood for quality more than 20 years.

Specify H. W. Tuttle's Breathing Insulators in your new designs—your letter, wire or phone call will bring you drawings and complete specifications.

"the house of quality"

H. W. TUTTLE & CO.
ADRIAN, MICHIGAN

Manufactured and distributed in Canada by CRONAME (Canada) Ltd., Waterloo, Quebec

there is no foolproof product!

● If you are genuinely interested in cutting enameling costs, you must first recognize that there is no such thing as a "foolproof product."

Ing-Rich Frit customers are enjoying lowered enameling costs, reduced reject percentage because they and we recognize this fact as a result of PRACTICAL experience.

You can't expect to approach the almost perfect conditions encountered in laboratory tests under practical working conditions.

That's where Ing-Rich has the big edge.

Our top flight ceramic engineers work day in and day out with the practical technicians in our own large job enameling plant. They have to prove their case under *practical working conditions*.

Ing-Rich Ceramic engineers stand ready to come into your plant and help you set up the proper working conditions which will assure you that with Ing-Rich Frits and Ing-Rich practical "Know How" you *can* cut your enameling costs.

INGRAM-RICHARDSON, INC.

OFFICES, LABORATORY AND PLANT
FRANKFORT, INDIANA



INDUSTRY PERSONALS

Chicago Vitreous Corp., a division of Eagle-Picher Co., and a leading manufacturer of porcelain enamel frits, has added three engineers to its research and development laboratory staff, according to an announcement by L. A. Johnson, manager of sales and service. The three are **Bernard J. Conner**, **Robert Kempson**, and **James White**.

Conner holds a BS degree in Glass Technology from New York State College of Ceramics, Alfred, N. Y. Kempson earned his BS degree in Chemistry at North Georgia College, and James White attended Virginia Tech., and graduated from William and Mary College.

At the same time, Johnson announced that **Ralph Kimpton**, who since 1952 was in charge of the porcelain and liner departments of Kelvinator of Canada, is now Chicago Vit. service engineer for Canada. Prior to his connection at Kelvinator, Kimpton was with Moffats Limited (Weston), and The O. Hommel Co.

Rheem Mfg. Co. has announced the appointment of **George J. Papas** as vice president, purchasing. He joined Rheem at Chicago in 1941, and served as plant purchasing agent at Danville, Pa., and Sparrows Point, Md., before his appointment as Rheem director of purchasing. Papas is a member of the American Iron and Steel Institute, the American Management Association, and the Steel committee of the National Association of Purchasing Agents.

The company makes steel shipping containers, automatic storage water heaters, heating and air conditioning equipment, gas kitchen ranges, plumbing fixtures, aviation, power plant, and missile components, etc.

Edward F. Schweich has been named executive vice president of the Lewin-Mathes Co., Div. of Cerro de Pasco Corp., it has been announced by Richard H. Lewin, Lewin-Mathes president. Other appointments announced by Lewin



PAPAS



MURPHY



HANNULA



HARDESTY

include: **Bram J. Lewin**, vice president in charge of production; **Harold E. Lewin**, vice president in charge of metal purchasing; and **Rodrick J. Lewin**, vice president in charge of sales. **James M. Dreyer** has been named secretary, **Jerome J. Marx** has been designated general sales manager, and **Henry Stucke** has been named assistant general sales manager.

Appointment of **Carl W. Moeller** as general manager of General Electric Co.'s room air conditioner department has been announced.

Raymond K. Serfass has been appointed manager of the air conditioning division of Westinghouse Electric Corp., it has been announced by Ronald N. Campbell, company vice president.

Jack Searls has joined Controls Co. of America as manager of field sales, heating and air conditioning controls, A. L. Topp, vice president, has announced. Searls will be located in the Milwaukee office where he will direct activities of the firm's original equipment manufacturers field sales force.

Election of **Philip S. Harper, Jr.**, to the presidency of Harper-Wyman Co., Chicago gas appliance component manufacturer, has been announced by Philip S. Harper, Sr., retiring president and founder of the firm. The elder Harper will continue as chairman of the board, and will also serve as advisor on product research and development.

In 1950 Harper, Jr. was made manager of the Princeton, Ill. plant. He became general manager of the company in 1954, and a year later was elected executive vice president.

H. W. Tuttle & Co., Adrian, Mich., manufacturers of electrical heating elements, announces a number of executive changes. **Edwin N. Hannula** has been appointed plant manager in charge of all manufacturing operations for the company. **Paul "Pat" C. Murphy** is the new controller, and **Lothair Q. Hardesty** the new purchasing agent. Two new directors were elected, **Mrs. Barbara Speerstra**, and **Harold Moore**, executive vice president of the Adrian State Savings Bank. The officer structure lists Mrs. Madeline K. Tuttle as both president and treasurer of the corporation; Harold W. Tuttle, Jr. remains as executive vice president; Mrs. Speerstra as a new vice president; and **Clark W. Baldwin**, secretary.

Hannula, before his promotion, was manager of the company's Springbrook plant. Murphy's financial experience includes eighteen years with the Gerity-Michigan Corp. Hardesty had been with H. W. Tuttle & Co. two years prior to his advancement to purchasing agent.

Controls Co. of America has announced four promotions. **Phil Bain** has been promoted to product line manager, industrial and commercial controls sales; **H. R. Chapin** was named chief product engineer, appliance and automotive controls; **J. J. Kaleba** was appointed engineering supervisor of the switch group; and **Marshall Zugehar** was promoted to sales co-ordinator, international division activities.

The appointment of **Robert E. Sperber** of Cleveland, Ohio as assistant to the president of The O. Hommel Co., Pittsburgh, was announced by Ernest M.

CONNER



WHITE



KEMPSON



KIMPTON



SCHWEICH



HARPER



Hommel, president. Sperber will work closely with Hommel's sales and service representatives throughout the United States, with particular attention to the frit division, the report states. He comes to Hommel from the Geometric Stamping Co., where he was sales promotion manager.

Russel G. Smith has been named contract sales manager of AllianceWare, Inc., Alliance, Ohio. He will be directly responsible for original equipment manufacturers sales and contract accounts for the corporation's entire plant facilities.

Several changes in the research organization of Armco Steel Corp. were announced by T. F. Olt, vice president.

M. E. Carruthers has been named director of stainless steel research for the company. He will have his headquarters at the central laboratories at Middletown. He succeeds Dr. A. L. Feild, who is retiring after 27 years with Armco. F. K. Bloom will become manager of the research laboratory at the Baltimore Works, a position also formerly held by Dr. Feild. M. W. Marshall has been appointed supervising research metallurgist, succeeding Carruthers.

Warren Fitch has been appointed director-distribution for Chrysler Corp.'s Airtemp Div., J. B. Ogden, vice president, sales, announced recently. A veteran of 32 years in the sales field, Fitch had been serving as manager of Airtemp's Northeast Zone since April of last year.

Appointment of Raymond J. Thompson as director-national service for Chrysler Corp.'s Airtemp Div., has also been announced by Ogden. Thompson held a similar post with the O. A. Sutton Co., Wichita, Kans., from 1950 until joining Airtemp in November of last year. He will be headquartered at Airtemp's home office at Dayton, Ohio.

John T. Gartrell has been appointed general manager of the Mirawal Div., Birdsboro Steel Foundry and Machine Co., Inc., Birdsboro, Pa. The announcement was made by G. Clymer Brooke, president of the firm, who said that Gartrell will maintain his office at Birdsboro, in the general office of the Mirawal Div.

T. J. Ammel has been named sales manager, O. E. M. Products, for the York Div., Borg-Warner Corp., it was announced by A. R. Rising, vice president and director of marketing. In this capacity, Ammel is responsible for the sale of hermetic compressors to original equipment manufacturers. His headquarters will be at the home office in York, Pa.

Ammel was with Kelvinator Div. of AMC for more than 21 years, serving in product development, sales engineering, and as assistant sales manager of the contract sales department.

Carl H. Rapp has been appointed to the advisory board of the University of Illinois Department of Ceramic Engineering. He is ceramic liaison and control engineer for the Centralab Div., Globe-Union, Inc., Milwaukee, Wis.

Fred A. Weymouth has been designated a vice president of Interchemical Corp., effective January 1, 1959. His new duties will include responsibilities for production, plant and purchasing.

Formerly division vice president of the company's Printing Ink Div., Weymouth has been associated with Interchemical for 29 years.

W. G. Young, president of Kerotest Mfg. Co., Pittsburgh, has announced the appointment of Edward N. Wrenshell to the office of general manager.

MicroRold® stainless steel soars with ATLAS ICBM on first full range flight!

*U. S. missile program one
step nearer to complete op-
erational capability.*

On the evening of November 28, 1958, a 100-ton ATLAS lifted from its pad at Cape Canaveral and arched majestically into the heavens. 30 minutes later its nose cone shot into the Atlantic, marking the first successful completion of its fully-programmed distance of 6300 statute miles.

The main part of the ATLAS structure is literally a huge fuel tank, the shell of which is thin gauge MicroRold stainless steel. Important factors in selection of stainless steel for the outer skin of the ATLAS are—great strength at both high and low temperatures, resistance to corrosive exotic fuels and good workability.

The stainless skin, supplied exclusively by Washington Steel, requires extremely close control of mechanical properties and gauge tolerance which are regularly produced through Washington Steel's long experience with precision rolling equipment.

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4½ ton third stage
118 to 625 mile altitude
December 18, 1958

WASHINGTON STEEL CORPORATION

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Electric appliances will be up 7 per cent in 1959

A REPORT FROM *Joseph F. Miller* • MANAGING DIRECTOR
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

ELECTRIC APPLIANCE SALES, including not only major electric appliances, but electric housewares, fans, and commercial electric appliances, will be up 7 per cent in 1959 over 1958, according to manufacturers' estimates. Leading this anticipated rise will be the industry's "newer" major appliances—built-in ranges, food waste disposers, and automatic dishwashers.

Another group of electrical products, some of which are among the fastest growing in point of sale in the electrical industry, also is expected to show fur-

ther gains in 1959 despite a downward trend in 1958. Included in this group are such products as radio and television tubes, electronic components, automatic temperature controls, commercial air conditioning and refrigeration equipment and commercial radio equipment. This group, as a whole, reported a dollar volume of business of \$6.5 billion in 1958, a drop of 8 per cent below 1957. In 1959, shipments are expected to hit \$7.1 billion—a 9-per cent gain over the 1958 mark.

The accompanying table shows a

breakdown of industry shipments, as well as a definition of what products are included in the NEMA study of electrical manufacturing.

Entire industry sees 7 per cent rise in business volume

The electrical manufacturing industry, looking confidently ahead to future business conditions, expects to produce \$21 billion worth of goods in 1959—a volume almost as high as that reached in the peak years of 1956 and 1957. This amount also will top the 1958 mark by 7 per cent.

The optimistic prediction for 1959 contrasts sharply with reports of sales in 1958 when the recession brought down the industry's high hopes for a good year to a total of \$19.5 billion—a drop of 10 per cent over the \$21.6 billion volume recorded in 1957.

Electrical manufacturing groups which fared best in a business way in 1958 were those producing illuminating equipment, signalling and communications equipment, and electrical products used in the building equipment and supplies category, such as wiring devices, conduit, fuses, molded case breakers, and electric house heating equipment. Hardest hit were manufacturers producing industrial apparatus, generating, transmission, and distribution equipment, and wire and cable.

Sales of major electric appliances and electric housewares also declined in 1958, with business for these items as a whole off by 9 per cent over 1957 levels. Individually, however, sales were mixed with some appliances showing a marked increase in 1958 over 1957 sales. Built-in electric ranges and food freezers

(To Column 2, Page 63)

TOTAL INDUSTRY SHIPMENTS
ELECTRICAL MANUFACTURING INDUSTRY
(All data in millions of Dollars. Includes Exports and Interplant Transfers)

ELECTRICAL PRODUCTS	1956	1957 (Revised)	1958 (Estimated)	1959 (Estimated)
*Appliances	\$ 4,558.9	\$ 4,138.8	\$ 3,756.3	\$ 4,007.2
Illuminating Equipment	855.8	872.9	855.8	906.9
Signal and Communication Equipment	1,234.8	1,345.7	1,345.7	1,353.8
Industrial Apparatus	3,089.4	3,153.2	2,731.1	2,918.8
Building Equipment and Supplies	714.0	713.7	648.8	698.4
Insulating Materials	354.3	340.4	303.5	336.0
Insulated Wire and Cable	1,838.9	1,638.6	1,307.5	1,411.5
Generation, Transmission and Distribution Equipment	2,086.4	2,356.1	1,998.6	2,039.9
**Other Electrical Products	7,155.7R	7,084.1	6,517.4	7,104.0
TOTAL ELECTRICAL MANUFACTURING INDUSTRY	\$21,888.2R	\$21,643.5	\$19,464.7	\$20,776.5

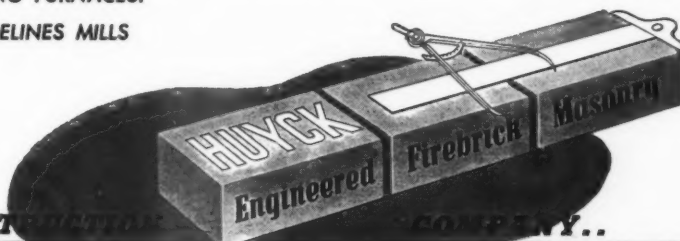
R = Revised Prepared by NEMA Statistical Department December 30, 1958

*APPLIANCES includes electric household refrigerators, electric farm and home freezers, electric ranges, electric water heaters, electric housewares, electric fans, electric commercial cooking equipment, electric dehumidifiers, electric household food waste disposers and dishwashers, packaged room air conditioners, electric dryers, electric ironers, electric washing machines, vacuum cleaners, and radio and television receiving sets.

**OTHER ELECTRICAL PRODUCTS includes radio, electronic and television transmission and communication equipment, automatic temperature controls, specialty transformers, ballasts (fluorescent), time switches, induction and dielectric heating apparatus, X-ray tubes, X-ray apparatus, land transportation motors and controls, electric lamps, air conditioning and commercial refrigeration equipment, radio receiving-type tubes, cathode ray tubes, engine electrical equipment, phonographs, phonograph records, recording devices, storage batteries, primary batteries, electrical hearing aids, lamp components, Christmas tree lighting outfits, and other related products.

HUYCK FURNISHES FIREBRICK MASONRY TO BUILD, REBUILD AND REPAIR ALL TYPES OF: ENAMELING FURNACES . . . FRIT SMELTERS . . . ALUMINUM, BRASS, LEAD SMELTERS . . . FORGE FURNACES . . . HEAT TREATING FURNACES.

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HUYCK MASONRY IS GUARANTEED TO GIVE YOU BETTER PERFORMANCE AND LONGER LIFE

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find the solution at Fahrалloy.

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- PUMP MANUFACTURERS
- STEEL



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A Member of the Alloy Casting Institute

150TH AND LEXINGTON AVENUE • HARVEY, ILLINOIS

New Literature

→ from Page 51

Stainless Steel Sheet and Strip Manual

A complete booklet is available describing a full line of stainless steel sheet and strip being produced in a completely new mill. The new Sendzimir Mill-equipped plant is reportedly the result of years of planning to provide high quality stainless steel. New equipment includes a coil preparation line, a 54 in. temper mill, a hot anneal furnace, and a complete metal preparation line. For a copy of the manual write Dept. MPM, Jones & Laughlin Steel Corp., Stainless and Strip Div. Box 4606, Detroit 34, Mich.

New Fractional H. P. Motor Catalog

A newly revised and enlarged "Smooth Power" fractional H. P. motor catalog is now ready for distribution. It contains illustrations, descriptions, and specifications of eight basic motors, with a total of 36 model variations, ranging from 1/1800 to 1/35 H. P. A new model motor is described in the booklet that is especially designed for applications requiring unusually long service life, according to the manufacturer. It features extra large oil reservoirs, die-cast bearing brackets, and a new method of packing the wicking to insure equal oil distribution at all times under rugged service, it is said. Copies of the new catalog can be obtained by writing Dept. MPM, The General Industries Co., Elyria, O.

Four Free Booklets on Packing, Shipping, Bulk Handling

Four idea booklets with complete information show how you can save cost in packing, handling, stacking, shipping and bulk handling. The booklets describe wirebound boxes, materials handling, warehousing and stacking, heavy loads, and pallet boxes. For the free set write Dept. MPM, Wirebound Box Manufacturers Assn., 222 W. Adams St., Chicago 6, Ill.

New Bulletin Describes Plating Machine

A new four-page bulletin now available describes new single row plating and processing machines. Complete machine is illustrated and described with emphasis placed on the carriers, main frame and drive. Folder also illustrates and lists other types of machines for plating, etching and anodizing, pickling, phosphatizing, and related processes. Write Dept. MPM for Bulletin U-658, The Meaker Co., 1629 S. 55th Ave., Chicago 50, Ill.

pointed the way out of the recession in the appliance industry with dollar volume sales up 26 per cent for ranges, and up 19 per cent for food freezers. On the decrease side of the appliance picture in 1958 were electric refrigerators and electric housewares. Dollar volume sales of refrigerators were 9 per cent lower in 1957 over 1958, while sales of electric housewares were down 20 per cent.

Despite generally disappointing sales in 1958, all segments of the electrical manufacturing industry see better days ahead in 1959.

FORECAST SUPPLEMENT

MAJOR APPLIANCES

If post-recession history like that of 1950 and 1955 repeats itself, this year could be the biggest yet in major appliances, said John W. Craig, Westinghouse vice president and general manager of its Electric Appliance Divisions. At the same time, he cautioned against "blue sky" thinking, but cited the fact that the appliance industry's biggest years came in the two immediately following the other two post-war recessions.

Craig predicted steady growth in the appliance market for the next few years, with new product design and features serving to increase the appetite of consumers for newer products.

GAS RANGES

Shipments of gas ranges by manufacturers totaled 174,900 units in November, 13.4 per cent over the 154,300 in the same month last year, the Gas Appliance Manufacturers Association announced. The percentage gain was the largest this year.

Free-standing gas ranges accounted for 152,100 of the latest monthly total, up 10.9 per cent from the 137,200 in November, 1957. Gas built-ins had a November total of 22,800, up 33.3 per cent from the 17,100 shipped a year earlier.

"An analysis of forecasts by individual gas range manufacturers indicates that sales of free-standing and built-in models could be increased by as much as eight and 25.6 per cent, respectively, to a combined total of 2,023,900 units," GAMA's Edw. Martin said. This would exceed the 1958 total of 1,837,600 by 10.1 per cent.

REFRIGERATORS, FREEZERS

Admiral expects to experience a 20 to 25 per cent increase in sales in the first quarter of 1959, over the equivalent of 1958, according to Ross D. Siragusa, the company's president.

"Our share of market is greater than ever before," said B. H. Melton, national

sales manager-appliances. "Our Appliance City in Galesburg, Ill., is the most consistent producer of refrigerators in the industry, with not a single layoff in the past two years. No other manufacturer of major appliances can make that claim."

HOME AIR-CONDITIONING

A 22 per cent increase next year in installation of year-round home air conditioning systems (over 1958) is expected by the industry, according to John W. Norris, president of Lennox Industries, Inc., large central residential heating and air conditioning equipment manufacturer.

Of this increase, Norris said, new housing will show a 30 per cent increase in air conditioning, with 10 per cent in conversions in existing homes.

Norris said that estimated housing starts for 1959 would be between one million and 1,150,000, with 73 per cent of these new homes being equipped with forced warm air heating systems. It is in this group that Norris predicts a 30 per cent increase in installation of year-round air conditioning systems.

HOME HEATERS

Sales of the Siegler Heater Company, a division of The Siegler Corp., reached a record high during the months of October and November to bring volume for the calendar year (1958) to the highest point in history, it was announced by Walter Ullman, president of the Siegler Heater Division.

During the heating industry's three-month peak period, September, October and November, sales were 28 per cent ahead of the same three months in 1957, Ullman said.

Located in Centralia, Illinois, the Siegler Heater Co. is the original firm of the present, expanded Siegler Corp. The parent company is a diversified organization active in the fields of heating, electronics and machinery with annual sales in excess of \$73 million.

PLUMBING—HEATING

Sales of plumbing and heating materials will be about 5 per cent higher in 1959, and cooling sales are likely to exceed 1958 by about 15 per cent, according to Howard L. Spindler, president of the Plumbing—Heating—Cooling Information Bureau, in a year-end forecast.

DISHWASHERS, DISPOSERS

Bertram F. Given, president of Waste King Corporation, Los Angeles, in mid-December forecast total industry sales of 480,000 dishwashers and 800,000 disposers for 1959. He said 1959 industry sales of automatic dishwashers will climb 13 per cent and garbage disposers 11 per cent over 1958.

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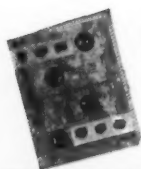


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"It is important that our machines deliver trouble-free service and therefore, we make certain that our overseas shipments arrive in trouble-free condition by using Chicago Mill cleated plywood containers. These containers protect the finished surfaces and mechanisms of our machines against the many handlings, severe shocks and strains encountered in overseas shipments. Pilferage is discouraged. The plywood panels provide an excellent sur-

face for complete marking, printing or product advertising. The Chicago Mill containers are easy to assemble and handle. Their cubic displacement and weight are less and the strength is greater. When the Vendo Company sends its machines from Kansas City, Missouri to a distant spot overseas, we make sure that they are packed 'First Class' in Chicago Mill containers."

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FREE! Illustrated Catalog Describing Chicago Mill's Shipping Containers and Services!



PALLET BOXES—
Wire Band



PALLET BOXES—
Hinged Corner



Cleated Boxes



E-Z Pak Cleated Corrugated
(Watkins type)



Wirebound Crates



Wirebound Boxes



Corrugated



Hinged Corner Crates or Boxes

CHICAGO MILL AND LUMBER COMPANY

33 South Clark Street

Chicago 3, Illinois

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- HELENA, ARKANSAS
- ROCKMART, GEORGIA
- TALLULAH, LOUISIANA



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editorial voice of the national safe transit program

devoted to improving packaging methods and shipping and materials handling methods for the appliance and metal products manufacturing industries. This section contains plant experience information and industry advances for the use of all executives and plant men interested in improving packaging and shipping methods and in loss prevention. The section contains complete information on the national safe transit pre-shipment testing program for packaged finished products and detailed reports of divisions and sub-committees of the National Safe Transit Committee.

AMA Schedules Program for First Six Months of 1959

As part of an expanded meeting program in the packaging field, the American Management Association will hold two conferences, an exposition, and seventeen small-group meetings on packaging subjects during the first half of 1959.

AMA's 28th National Packaging Exposition will be held at the International Amphitheatre, Chicago, April 13-17; accompanying it will be the AMA National Packaging Conference at the Palmer House April 13-15. The national management educational association also will sponsor seventeen seminars in the packaging field at its headquarters in New York, and at the LaSalle Hotel, Chicago.

New Facilities for Container Div., International Paper Co.

The Container Div., International Paper Co., has obtained plant facilities near Philadelphia for the manufacture of corrugated shipping containers, it has been announced by Arthur Damon, Div. general manager. The new plant will be located in a recently-purchased facility in the town of Primos, in the Borough of Aldah, five miles outside Philadelphia. Production of corrugated boxes is expected to begin there this month.

NST Claim Prevention Program Gains Momentum

Independent testing and container laboratories have ordered eleven hundred copies of the folder "Three Points for Profit" within the past thirty days. This indication of laboratory approval of NSTC's new three-point claim preven-

tion program follows the lead established by the Association of American Railroads, American Trucking Associations, and Air Transport Association, who earlier distributed more than five thousand copies to their members.

"Three Points for Profit" points out that, when a poorly or weakly packaged product is shipped, damage becomes a very real possibility, but when packaged products meet the National Safe Transit

Committee test requirements they are definitely not poorly or weakly packaged products. Stressing the theme "Modern claim prevention begins before the product leaves the factory," the common sense workability of the program is receiving growing acceptance.

Copies of "Three Points for Profit" are available at Five Dollars (\$5.00) per hundred.

(More NST News on Page 66, Col. 3)

Evans President Receives Outstanding Service Award

For outstanding service to defense emergency planning through development of more efficient transportation methods, Edward S. Evans, Jr., president of Evans Products Co., Plymouth, Mich., has received a plaque award from the National Defense Transportation Association. Tom J. Morcom, manager of the Traffic department of the Ford Div., Ford Motor Co., made the presentation at a gathering of the Detroit Div. of NDTA.

It was the Evans DF Loader, a permanently-installed load-locking system eliminating damage and dunnage in box cars, that has won the company national recognition in transportation developments since the war. Some 33,000 Evans DF Loader cars are presently in service on 49 Class I railroads. (See Page 98, *Safe Transit* section, September, 1958 MPM for article describing the DF Loader system.)

Tom J. Morcom, Ford Motor Co., congratulates Edward S. Evans, Jr., Evans Products Co., during presentation of plaque award for outstanding service to defense emergency planning through development of more efficient transportation methods.



Using plant "air rights" effectively

small parts handling can be
simplified by using pallet bins



Materials handling is simplified at the Owatonna, Minn., plant of the Owatonna Tool Co. by using pallet bins to receive semi-finished and finished goods at various work stations. Here, a worker places assembled adjustable wrenches in a bin. It will be carried direct to consumer packaging or into storage. An identical pallet bin brought parts of the wrenches from a production line to this final assembly station.

MORE THAN 850 PALLET BINS in two different sizes are in use at the Owatonna Tool Company's new \$750,000 plant at Owatonna, Minn. They serve as inter-plant shipping containers for parts from suppliers, storage containers for finished and semi-finished products, and materials handling containers between production and assembly stations. The bins are used interchangeably from one purpose to another, so unpacking and repacking containers is kept to a minimum.

The inventory control system is established so that a bin going into storage can be placed wherever most convenient.

Its contents and location in storage are identified by code on a card attached to it, and the identifying data is sent to inventory control to be recorded, so any part or bin can be located instantly.

Assembly line workers needing relatively small numbers of parts take them from bins in storage and wheel them to their work stations. When large numbers of parts are needed, a fork-lift truck carries full bins to assembly stations. After assembly, the parts are placed into similar bins, or even back into the identical containers, and then taken to the next assembly station, back to storage, or to consumer packaging.



Some of the 850 pallet bins used by the tool company for inter-plant shipment of supplies, handling of merchandise between production and assembly stations, and storing partly finished and finished tools are shown here making maximum use of both floor area and cube.

Safe Transit Conference for North Carolina

The Industrial Experimental Program (North Carolina State College, Raleigh, N. C.), is planning a safe transit conference to be held in February for the benefit of presidents and/or managers of manufacturing firms in North Carolina to discuss the problems involved in the shipment of industrial products.

The following topics will be discussed in this conference:

I. Effects and causes of in-transit damages.

A. What it means to, or costs the, —
(1) shipper, (2) carrier, (3) customer or receiver.

II. Safe Transit requisites.

A. Shipper's responsibilities.

B. Carrier's responsibilities.

Plans have been made to cover topics by having four speakers and a discussion panel.

In the December issue of I.E.P. News, it was stated: "Through the cooperation of the manufacturer, hauler, and claims agent, much can be done to reduce damages, and all involved will profit from this cooperation. I.E.P. is planning a Safe Transit and Packaging Conference to be held in February, 1959. It is the purpose of this conference to help overcome the high shipping cost and high claim damage."

Color Coding Packages



A band of colored tape is stripped all the way around each drum of Pemco pigment. The color of the tape signifies the color family of the pigment inside. This makes for fast identification of color supplies, as the color of the band can be seen from any angle, no matter how the containers are stored.

Pemco Corp., Baltimore, Md., manufactures coloring oxides for porcelain enamel products.

Companies Sign Up For NST Imprint Label

Designed to give greater flexibility to an already tried and proved labeling program, the Safe Transit *imprint label* is rapidly achieving industrywide acceptance.

Under the imprint license agreement, an exclusive manufacturer's license number is assigned to each manufacturer user.

Recent additions to the list of imprint license agreement signers include Household Refrigerator department, General Electric Co., Appliance Park, Louisville, Ky.; The Maytag Co., Newton, Iowa; Kaiser Metal Products, Inc., Bristol, Pa.; Norge Div., Borg-Warner Corp., Herrin, Ill.; Hammond Organ Co., Belleville, Ill.; Westinghouse Electric, Buffalo, N. Y.; Temco, Inc., Nashville, Tenn.; and Norge Div., Borg-Warner Corp., Effingham, Ill.

New Concept in Braking Systems

A new concept in braking systems for industrial trucks has been developed by The Elwell-Parker Electric Co., Cleveland, Ohio, for all its fork and ram trucks with capacities from 15,000 to 100,000 lbs.

Known as the "Tri-Safe" braking system, it is said to incorporate the safety and positive control features of three completely-independent brakes: a dynamic brake, which serves to quickly slow down the truck, using the drive motor as a generator to provide braking action; a power-operated hydraulic brake in each drive wheel for normal service braking; and a mechanical brake for emergency stops and parking. All three brakes are actuated by a single toe bar which extends the entire width of the operator's compartment. Brake action is said to be convenient and without danger of operator confusion.

For additional information, contact Dept. MPM, The Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 3, Ohio.

Forecast Supplement → from Page 63

He said the nearly half-million under-counter, free-standing, portable and convertible dishwashers will have a retail value of approximately \$108 million, and that the 800,000 dishwashers will retail for about \$56 million.

The predicted percentages of increase are based on estimated 1958 industry sales of 425,000 dishwashers and 720,000 disposers, valued at \$95,625,000 and \$50,400,000, respectively.

ELECTRIC HOUSEWARES

The electric housewares industry has grown rapidly in a comparatively few years to a point where present annual retail sales reach well over \$1 billion, according to NEMA. The value of total industry shipments during 1957 was more than 6½ times the 1940 volume, while the retail value of manufacturers' sales of electric housewares produced since World War II—such items as automatic coffeemakers, blenders, bed coverings, fry pans, steam irons and deep fat fryers—increased 73 per cent during the 1952-1957 period. Electric housewares on the market prior to the war, such as heaters, heating pads, hotplates, toasters, grills, showed a retail value gain of 25 per cent last year over 1952.

AIR-CONDITIONERS

First fiscal quarter (ending November 30, 1958), shipments of Fedders air-conditioners set a new record and were 53 per cent greater than last year's record first quarter, Fedders-Quigan Corp. stockholders were told at the firm's annual meeting, held December 15.

NEXT MONTH—more executive reports and forecasts on products and materials.

MPM JANUARY • 1959

Printing sells what the shipper ships



Clean, sharp printing makes traveling billboards of H & D corrugated boxes. Brand names get attention, merchandise moves faster. Is your shipping box making a colorful impression? Better see H & D.



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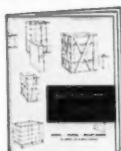
1. "What To Expect From Wirebounds" describes construction and general uses.
2. "Materials Handling, Warehousing and Stacking" is a digest of money-saving methods.
3. "Heavy Loads" explains how extra-heavy shipments handle easier in Wirebounds.
4. "Pallet Boxes" shows how to handle items in bulk safely, at low cost.

Write on your letterhead for the booklet or booklets that interest you!

WIREBOUND BOX MANUFACTURERS ASSOCIATION
Room 1462

222 West Adams Street, Chicago 6, Ill.

Wirebound
BOXES & CRATES



Airless spray

→ from Page 40

300° F. Approximately five to six minutes are provided for flash-off between painting and baking operations.

Pressure of 600 psi at 180°F.

The white alkyd baking enamel is reduced four (4) parts enamel to one (1) part thinner, which results in a viscosity of 27 seconds measured in a Zahn #2 viscosimeter at room temperature. After reduction, the material is introduced into the airless spray coating system and applied at pressures of 600 psi, and at temperatures of 180° F.

Based on nearly two years in production use, Karbe states that his company is well pleased with the results achieved, and he reports the following production results: (1) 25 per cent paint savings, (2) lower booth maintenance, (3) decreased exhaust requirements (less heat loss through winter months), (4) reduced labor (fewer number of passes per piece), and (5) a finer appearing product.

Architectural porcelain

→ from Page 44

air-operated laminating press, which exerts a force of 50 psi to bond the metal parts to the internal insulating core.

Versatility is feature of panels

Caloric has created many special panels to meet the specific need of architects and contractors. Typical examples are the panels colorfully decorated with animal drawings for use in the new Children's Reception Center, Philadelphia, Pa., and unusual simulated effects on panels for the Empress Motel, Atlantic City, N. J. Other current installations include the new Sheraton Hotel, Binghamton, N. Y.; the University of Miami Medical Research Building, Miami, Fla.; and the I. B. M. Building, Chicago, Ill.

APPLIANCES USING ADAPTATHERM CAST IN HEATING ELEMENTS ARE NOW REACHING THE CONSUMER

ADAPTATHERM



direct heat transmission

If you need a heating element that heats up faster, gives more even heat distribution and lasts longer — check into ADAPTATHERM for your new designs.

"the house of quality"

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GENUINE PORCELAIN ENAMELING ON ALUMINUM AND ALUMINIZED STEEL

All architectural and builders' requirements available in all colors, including pastels — (in a matt, semi-matt or gloss finish!!!)

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SHAFFER SIGN SERVICE, INC.

500 Datura Street

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WEST PALM BEACH, FLORIDA

One-coat white enamels on cold rolled steel

SUCCESSFUL ONE COAT white porcelain enameling on non-premium steels is a reality at General Electric, Appliance Park, Louisville, Ky., according to Harlan Tripp, process engineer. A large part of the present production of range panels is in one coat white porcelain enamel. The processing of one coat enamels was discussed at a meeting of the Midwest Enamellers Club in Chicago, Dec. 6th.

Elimination of fishscaling essential

The most critical defect in processing one coat white enamels is fishscaling. The chief sources of fishscaling are: poor pickling, low nickel deposition, residue salts from pickling, and distribution of hydrogen in the steel. To eliminate these causes special steels, extra treatments such as carefully controlled nickel deposition or special pickling procedures could be used. Since the extra cost of special steels does not always justify itself in large operations, cold rolled steel seems the best choice providing good cleaning and pickling can be done.

Cleaning cycle important

Experience at General Electric has been that the first step in metal preparation is one of the most important of all. A non-foaming cleaner works best because it has the least tendency to leave residue on the metal. No definite rule was set down by Tripp on the specific kind of cleaner to use or the strengths of solution because of the wide variation between different cleaners.

Tripp recommends using fewer cleaners and more rinses than usual. Removing the cleaner itself is as important as removing soil and greasy compounds, he said. The important thing to watch for is to have clean, completely rinsed metal before entering the acid cycle. Poorly cleaned metal cannot be etched uniformly by the acid.

Etching must be complete

At General Electric etching 100 per cent of the surface is considered necessary. Phosphoric acid in concentrations of 20-30 per cent is used in the spray type metal preparation system. It was stated that a uniform, easily controllable etch can be obtained with phosphoric acid. Additional oxidizing compounds need not be added to aid pickling in the

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METAL PRODUCTS STATISTICS

a current report on available production, shipment and sales figures for important products in the appliance and fabricated metal products manufacturing field

	1958 (Units)	1957 (Units)	% Change
Gas Water Heaters.....October	256,300	234,700	+ 9.2
Jan.-Oct.	2,258,200	2,186,000	+ 3.3
Gas Ranges, Built-In.....October	26,100	19,900	+31.2
Jan.-Oct.	184,600	163,500	+12.9
Gas Ranges, Free-Standing....October	189,300	175,600	+ 7.8
Jan.-Oct.	1,364,100	1,515,000	-10.0
Gas Furnaces.....October	106,800	82,600	+29.3
Jan.-Oct.	701,300	602,600	+16.4
Gas Fired Boilers.....October	17,700	14,700	+20.4
Jan.-Oct.	104,400	91,400	+14.2
Gas Conversion Burners.....October	21,800	24,700	-11.7
Jan.-Oct.	131,800	142,900	- 7.8
Electric Refrigerators.....October	277,500	261,500	+ 6.2
Jan.-Oct.	2,584,300	2,889,000	-10.4
Electric Freezers.....October	108,100	71,500	+52.0
Jan.-Oct.	944,000	816,800	+15.8
Electric Ranges, Free Standing..October	78,300	81,300	- 3.7
Jan.-Oct.	652,200	781,500	-17.6
Electric Ranges, Built-In.....October	57,400	39,100	+72.4
Jan.-Oct.	429,200	352,900	+21.6
Electric Storage Water Heaters..October	78,000	79,400	- 1.9
Jan.-Oct.	689,800	666,400	+ 3.5
Electric Dishwashers.....October	38,800	35,200	+10.2
Jan.-Oct.	327,200	327,300	- 0.0
Electric Food Waste Disposers..October	53,800	49,900	+ 7.8
Jan.-Oct.	489,300	447,000	+ 9.5
Combination Washer-Dryer...October	22,843	19,227	+19.0
Jan.-Oct.	128,988	153,480	-16.0
Washers, Automatic & Semi...October	303,102	288,051	+ 5.0
Jan.-Oct.	2,253,654	2,419,755	- 7.0
Washers, Wringers & Others...October	100,954	89,570	+13.0
Jan.-Oct.	755,140	783,613	- 4.0
Electric Dryers.....October	115,133	126,799	- 9.0
Jan.-Oct.	623,824	700,084	-11.0
Gas Dryers.....October	65,272	60,700	+ 8.0
Jan.-Oct.	287,205	313,329	- 8.0
Vacuum Cleaners.....October	339,127	328,655	+ 3.2
Jan.-Oct.	2,684,473	2,701,548	- 1.0
Metal Furniture.....October	*	*	+12.0
Jan.-Oct.	*	*	- 1.0
†Television.....October	495,617	661,999	-39.4
Jan.-Oct.	4,067,806	5,251,158	-20.0
†Radio.....October	1,305,857	1,569,180	-19.0
Jan.-Oct.	9,489,544	11,945,534	-22.0
Compressor Bodies.....July	281,423	*	- 3.0
July-Sept.	2,421,308	2,999,491	-19.0
Steel Barrels & Drums.....September	3,004,070	2,829,699	+ 6.0
Jan.-Sept.	23,770,174	27,592,645	-14.0
Steel Pails.....September	7,675,168	5,941,946	+29.0
Jan.-Sept.	56,126,812	57,978,728	- 3.0
Typewriters.....October	144,172	*	*
Jan.-Oct.	1,008,402	*	*

* Not Reported

† Output

Sources for this information: Gas Appliance Manufacturers Association, National Electrical Manufacturers Association, American Home Laundry Manufacturers Association, Vacuum Cleaner Manufacturers Association, National Association of Furniture Manufacturers, Electronic Industries Association, Air-Conditioning and Refrigeration Institute, and U.S. Dept. of Commerce.

system at G. E. The air in the tunnel of the spray pickle machine provides the right amount of auxiliary oxidizing action. Though more expensive than sulphuric acid both from the standpoint of base cost and higher concentrations needed (20-30 per cent vs. 6-10 per cent) overall economies have resulted at G. E.

Nickel flash important as ever

Probably the most important point to observe in evaluating nickel flash and the results obtainable in one coat work is the quality of the nickel flash job. Nickel flash is not a cure all that covers poor cleaning and etching. To complete a good metal preparation job a uniform nickel flash is necessary. Tripp feels that a key point of control in nickel deposition is distribution of the solution in the tank. Apparently he means that a system of agitating the solution in the tank or some means of keeping the solution homogenous enough to apply an even deposition of nickel should be used.

Colored Fixture Sales

Now a Third of Market

Sales of colored plumbing fixtures gained by more than ten per cent during the period 1954 through 1957, according to a report released by the Plumbing Fixture Mfrs. Assn. Figures reveal that colored plumbing ware now accounts for 30 to 35 per cent of total sales.

CLASSIFIED

Per column inch: 1 ti. 3 ti. 6 ti.
1 to 2" inclusive \$18.00 \$17.00 \$16.00
3 to 5" inclusive 17.00 16.00 15.00
6 to 9" inclusive 16.00 15.00 14.00
Measured in vertical column inches;
each column 2 1/4" wide. Accepted in
column-inch multiples only. For reverse
plate, add 25 per cent. No agency com-
mission.

WANTED—Ceramic Process Control Engineer. Minimum three years experience porcelain enamel process control. Prefer degree. Mid-west location. Modern plant. Progressive management.

Box 1-A, Dana Chase Publications, York St. at Park Ave., Elmhurst, Ill.

WANTED: Manufacturers' Agents to sell Polysulphide Sealing Compound (Thiokol Liquid Polymer). Should have strong following with architects, porcelain enamel, and curtain wall erectors, glass houses, etc.

Reply in detail to Box 1-B, Dana Chase Publications, York St. at Park Ave., Elmhurst, Ill.

**keep this man
in mind**



Discriminating consumer purchasers have conclusively proved that there is *no substitute* for quality finished, welded wire components. And—if you want the very best at a competitive price—just specify USP.

Anything . . . made of wire to your specifications. Any size, shape or quantity, in a wide range of attractive modern finishes.

We handle all details and *all* our facilities are within our own plants: design engineering, tooling, fabricating, finishing, inspecting and guaranteed on-time delivery. We have 385,000 square feet of the most modern wire forming, fabricating and finishing facilities to serve you better—plus hundreds of experienced people who make it their business to improve your business through the use of versatile, modern wire.

Why not make your manufacturing dollar go further? *Keep the USP man in mind.* He will survey your problem and provide a sound, economical solution—without obligation.



You are Cordially Invited . . . to investigate the advantages of Union Steel's wire product design and development service, without obligation. A phone call to NA tional 9-2181 {Albion} will bring immediate service.

First Name in Welded Wire Products—

UNION STEEL PRODUCTS CO.

Contract Wire Division ALBION, MICHIGAN



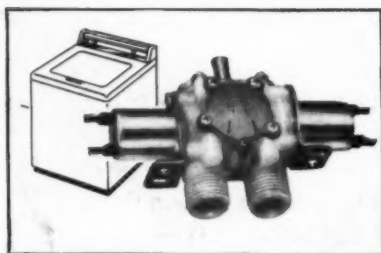


TOMORROW'S APPLIANCES

*... what will
their control
problems be?*

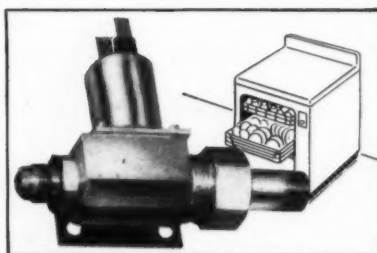
Homes of tomorrow may use washer-dryer-ironer combinations like this. Their success will undoubtedly hinge on many new automatic features. In the control of liquids, Dole Valves made practical many automatic operations that were thought impossible in today's appliances. Their contributions to future advances will be equally important. Perhaps they can do the same for your projects.

DOLE assistance helped make these products better



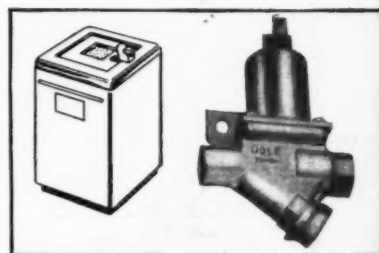
AUTOMATIC HOME WASHING MACHINES

Dole Water Control Units were developed for the first automatic washing machines to turn water on and off, control rate of flow and mix water to desired temperature. Dole Dispensers are also being used to store and automatically dispense fabric conditioner materials at a predetermined time.



AUTOMATIC DISHWASHERS

Dole Single Solenoid Shut-off Valves turn water on and off and control proper flow rates for washing and rinsing. Incorporated in this valve is the Dole Flow Control. Dole Dispensers are also used in automatic dishwashers to store and automatically dispense water conditioners at the proper time in the cycle.



AUTOMATIC WATER COOLERS

This Dole Single Solenoid Shut-off Valve with built-in Flow Control eliminates surging and controls the flow of drinking water regardless of variations in the line pressure. This inexpensive solution to an old problem is another example of the engineering ability and manufacturing facilities available to help you with your problems.

If your products or projects involve problems of fluid control—flow rate, mixing, temperature control, shut-off, dispensing—Dole Valves may provide the practical solution you are after. Too, the simplicity and lasting dependability of these valves mean finer products, greater customer satisfaction.

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Additional information about these or other Dole Solenoid Operated Valves may be obtained by writing:

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